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DISCOURSE OF THE PLURALITY OF WORLD

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CONVERSATIONS WITH A LADY,

ON THE PLURALITY of WORLDS.

Written in FRENCH,

By Monſ. *FONTENELLE*,
AUTHOR of, *The Dialogues of the Dead.*

Tranſlated by Mr. *GLANVILL.*

The Fifth Edition.

With the ADDITION of a
SIXTH CONVERSATION.

To which is alſo added,
A DISCOURSE concerning the ANTIENTS and MODERNS.
Written by the ſame AUTHOR: And Tranſlated by Mr. *HUGHES.*

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THE PREFACE.

MY *Case is much like* CICERO's *when he undertook to write of Philosophy in* Latin, *there being then no Books upon that Subject, but what were written in* Greek. *When some told* CICERO, *that he would take pains to no purpose, because such as study'd Philosophy, would make use of* Greek *Authors, and not read* Latin *Books, which treated of it but at second hand; and others, who were no Admirers of this Science, would never trouble their Heads with either* Greek *or* Latin: CICERO *reply'd, They were much mistaken; for,* said he, *the great ease People will find in reading* Latin *Books will tempt those to be Philosophers who are none; and they who*

already are Philosophers, by reading Greek *Books, will be very glad to see how Philosophy is handled in* Latin.

CICERO *might with good reason answer as he did, because the Excellency of his Genius, and the great Reputation he had acquir'd, warranted the Success of all he wrote. But in a Design, not much unlike his, I am far from having those Grounds of Confidence which he had. My purpose is to discourse of Philosophy, but not in a philosophical manner; and to raise it to such a Pitch, that it shall not be too dry and insipid a Subject to please Gentlemen, nor too mean and trifling to entertain Scholars. Shou'd I be told, as* CICERO *was, that such a Discourse as this wou'd not please the Learned, because it can teach them nothing, nor the Illiterate, because they will have no mind to learn; I will not answer as he did: It may be, endeavouring to please every body, I have pleas'd no body; to keep the middle betwixt the Extremes, is difficult; and I believe I shall never*

desire

desire to put my self a second time to the like Trouble.

If this Book have the Luck to be read, I declare to those who have any Knowledge of Natural Philosophy, that I do not pretend to instruct, but only to divert them, by presenting to their View, in a gay and pleasing Dress, that which they already know: But they to whom the Subject is new, may be both diverted and instructed. The first will act contrary to my Intention, if they look for Profit; and the second, if they seek for nothing but Pleasure.

I have chosen that Part of Philosophy which is most like to excite Curiosity: For what can more concern us, than to know how this World which we inhabit, is made; and whether there be any other Worlds like it, which are also inhabited as this is? They who have any Thoughts to lose, may throw them away upon such Subjects as this. But I suppose, they who can spend their Time better will not be at so vain and fruitless an Expence.

In these Discourses I have introduc'd a Woman, to be instructed in Things of which she never heard; and I have made use of this Fiction, to render the Book the more acceptable, and to give Encouragement to Ladies, by the Example of one of their own Sex; who, without any supernatural Parts, or Tincture of Learning, understands what is said to her; and without any Confusion, rightly apprehends what Vortexes and other Worlds are. And why may not there be a Woman like this imaginary Countess? since her Conceptions are no other than such as she could not chuse but have.

To penetrate into Things either obscure in themselves, or but darkly expres's'd, requires deep Meditation, and earnest Application of the Mind; but here, nothing more is requisite than to read, and to print an Idea of what is read in the Fancy, which will certainly be clear enough. I shall desire no more of the fair Ladies, than that they will read this System of Philosophy with the same Application

that

that they do a Romance or a Novel. 'Tis true, that the Ideas of this Book are leſs familiar to moſt Ladies, than thoſe of Romances are, but they are not more obſcure; for at moſt, twice or thrice thinking, will render them very perſpicuous.

I have not compos'd an airy Syſtem, which hath no Foundation at all: I have made uſe of ſome true Philoſophical Arguments, and of as many as I thought neceſſary; but it falls out very luckily in this Subject, that the Phyſical Ideas are in themſelves very diverting: And as they convince and ſatisfy Reaſon, ſo, at the ſame time, they preſent to the Imagination a Spectacle, which looks as if it were made on purpoſe to pleaſe it.

When I meet with any Fragments which are not of this Kind, I put them into ſome pretty ſtrange Dreſs. VIRGIL *hath done the like in his* Georgicks; *when his Subject is very dry, he adorns it with pleaſant Digreſſions.* OVID *hath done the ſame in his* Art of Loving; *and tho' his Subject be of it ſelf very pleaſing, yet he thought*

thought it tedious to talk of nothing but Love. My Subject hath more need of Digreſſions than his; yet I have made uſe of 'em very ſparingly, and of ſuch only, as the natural Liberty of Converſation allows; the greateſt Part of 'em are in the Beginning of the Book, becauſe the Mind cannot at firſt be ſo well acquainted with the principal Ideas which are preſented to it; they are taken from the Subject it ſelf, or are as near to it as is poſſible.

I have fancy'd nothing concerning the Inhabitants of the many Worlds, which is wholly fabulous: I have ſaid all that can reaſonably be thought of them; and the Viſions which I have added, have ſome real Foundation. What is true, and what is falſe, are mingled together, but ſo as to be eaſily diſtinguiſh'd. I will not undertake to juſtify ſo fantaſtical and odd a Compoſition, that is the principal Point of the Work, and for which I can give no very good Reaſon.

There remains no more to be ſaid in this Preface, but to a ſort of People, who perhaps will not be eaſily ſatisfy'd;

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not but that I have good Reasons to give 'em, but because the best that can be given, will not content 'em: They are those scrupulous Persons, who imagine that the placing Inhabitants any where but upon the Earth, will prove dangerous to Religion. I know how excessively tender some are in Religious Matters, and therefore I am very unwilling to give any Offence in what I publish to People whose Opinion is contrary to that I maintain. But Religion can receive no Prejudice by my System, which fills an Infinity of Worlds with Inhabitants, if a little Error of the Imagination be but rectify'd. When 'tis said the Moon is inhabited, some presently fancy that there are such Men there, as we are; And Church-Men, without any more ado, think him an Atheist, who is of that Opinion. None of ADAM'S *Posterity ever travell'd so far as the Moon, nor were any Colonies ever sent thither; the Men then that are in the Moon, are not the Sons of* ADAM: *And here again Theology would be puzzled, if there should be*

Men

Men any where that never descended from him. To say no more, this is the great Difficulty to which all others may be reduc'd; to clear it by a larger Explanation, I must make use of Terms which deserve greater Respect than to be put into a Pamphlet so trivial, and so far from being serious, as this is. But perhaps there is no need of answering the Objection, for it concerns no Body but the Men in the Moon: And I never yet said there are Men there. If any ask, what the Inhabitants there are, if they be not Men? All I can say is, that I never saw them; and 'tis not because I have seen them, that I speak of them. Let none now think that I say there are no Men in the Moon, purposely to avoid the Objection made against me: For it appears 'tis impossible there should be any Men there, according to that Idea I have framed of that infinite Diversity and Variety which is to be observ'd in the Works of Nature. This Idea runs thro' the whole Book, and cannot be contradicted by any Philoso-

pher.

pher. And to think there may be more Worlds than one, is neither againſt Reaſon nor Scripture. If God glorify'd himſelf in making one World, the more Worlds he made, the greater muſt be his Glory. But I do not declare theſe Ideas to be Articles of my Faith: When I do, I hope I ſhall have the ſame Liberty as the reſt of my Neighbours.

Ad-

Advertiſement.

TO this Edition, beſides the adding of an Evening's Converſation, which was not in the former, there is likewiſe added, *A Diſcourſe of the ſame Author, concerning the* Antients *and* Moderns, which has made ſome noiſe in the Learned World, and was never tranſlated before. The *Plurality of Worlds*, and this Piece, are both mentioned by Sir *William Temple*, in his *Eſſay on Antient and Modern Learning*, the *former* with great Praiſe, and the *latter* with equal Reſentment. It is well known which ſide of the Controverſy Sir *William* favour'd. Every one will judge in this, as his Reaſon or Prejudices ſway him. But as the Plurality of Worlds is chiefly written on the Improve-

ments

ments made by the Moderns in Philoſophy and Aſtronomy, it was thought that this general Diſcourſe on the Queſtion of Preheminence between the Antients and Moderns was very proper to accompany it.

A PLURALITY OF *WORLDS.*

YOU would have me, Sir, give you an exact Account how I pafs'd my Time in the Country, at the Counteſs of *D*---'s. Are you ſenſible ſuch an exact Account will amount to a Volume? Nay (what is worſe) a Volume of Philoſophy? I know you expect another kind of Entertainment, Dancing, Gaming, Hunting, *&c.* but you muſt take up with Vortexes, Planets, and New Worlds; theſe were the

the Subjects of our Converſation. And by good luck you are a Philoſopher, ſo that it will be no great Diſappointment; nay, I fancy, you will be pleas'd, that I have brought over the Counteſs to our Party: We could not have gain'd a more conſiderable Perſon, for Youth and Beauty are ever ineſtimable. If Wiſdom would appear with Succeſs to Mankind, do you think ſhe would not do well to take upon her the Perſon of the Counteſs? And yet was her Company but half ſo agreeable, all the World would run mad after Wiſdom. But tho' I tell you all the Diſcourſe I had with the Lady, you muſt not expect Miracles from me. It is impoſſible without her Wit, to expreſs but what ſhe ſaid, in the ſame manner ſhe ſpake it: For my part, I think her very Learned, from the great Diſpoſition ſhe hath to Learning. Is it a Poring upon Books that makes a Man of Underſtanding? I know many that have done nothing elſe, and yet I fancy are not one tittle the wiſer. But perhaps you expect, before I enter upon my Subject, I ſhould deſcribe the Lady's Houſe, with all its Situation; many great Palaces have been turn'd inſide outward upon far leſs occaſion. But I intend to ſave you and myſelf that labour; let it ſuffice that I tell you, I found no Company with the Counteſs, and I was not at all

all displeas'd with it. The two first Days drain'd me of all the News I brought from *London*; what I now send you is the rest of our Conversation, which I will divide into so many Parts as we were Evenings together.

The First EVENING.

WE went one Evening after Supper to walk in the Park: The Air was extremely refreshing, because that Day had been very hot. The Moon had been up about an hour, and, as she shone between the Trees, made an agreeable Mixture of Light and Darkness; the Stars were in all their Glory, and not a Cloud appear'd on the azure Sky: I was musing on this awful Prospect; but who can think long of the Moon and Stars in the Company of a pretty Woman! I am much mistaken if that's a time for Contemplation: Well, Madam, *said I to the Countess*, is not the Night as pleasant as the Day? The Day, *said she*, like a fair Beauty, is clear and dazling; but the Night, like a brown Beauty, more soft and moving. You are generous, Madam, *I reply'd*,

reply'd, to prefer the Brown, you that have all the Charms that belong to the Fair; but is there any thing more beautiful in Nature than the Day? The Heroines of Romances are generally fair; and that Beauty muſt be perfect, which hath all the Advantages of Imagination. Tell not me, *ſaid ſhe*, of perfect Beauty; nothing can be ſo that is not moving. But ſince you talk of Romances, why do Lovers in their Songs and Elegies addreſs themſelves to the Night? 'Tis the Night, Madam, *ſaid I*, that crowns their Joys, and therefore deſerves their thanks. But 'tis the Night, *ſaid ſhe*, that hears their Complaints; and how comes it to paſs the Day is ſo little truſted with their Secrets? I confeſs, Madam, *ſaid I*, the Night hath ſomewhat a more melancholy Air than the Day; we fancy the Stars march more ſilently than the Sun, and our Thoughts wander with the more liberty, whilſt we think all the World at reſt but ourſelves: Beſides, the Day is more uniform, we ſee nothing but the Sun, and Light in the Firmament; whilſt the Night gives us variety of Objects, and ſhews us ten thouſand Stars, which inſpire us with as many pleaſant Ideas. What you ſay is true, *ſaid ſhe*; I love the Stars; there is ſomewhat charming in them, and I could almoſt be angry with the Sun for effacing 'em. I can never par-

don

don him, *I cry'd*, for keeping all those Worlds from my Sight. What Worlds, *said she*, looking earnestly upon me, what Worlds do you mean?

I beg your pardon, Madam, *said I*; you have put me upon my Folly, and I begin to rave. What Folly, *said she?* I discover none. Alas, *said I*, I am asham'd, I must own it; I have had a strong fancy every Star is a World. I will not swear it is true, but must think so; because it is so pleasant to believe it: 'Tis a Fancy come into my head, and is very diverting. If your Folly be so diverting, *said the Countess*, pray make me sensible of it; provided the Pleasure be so great, I will believe of the Stars all you would have me. It is, *said I*, a Diversion, Madam, I fear you will not relish; 'tis not like one of *Moliere*'s Plays: 'Tis a Pleasure rather of the Fancy than of the Judgment. I hope, *reply'd she*, you do not think me incapable of it: teach me your Stars, I will shew you the contrary. No, no, *I reply'd*, it shall never be said I was talking Philosophy at ten of the clock at Night to the most amiable Creature in the World; find your Philosophers somewhere else.

But in vain I excus'd myself: who could resist so many Charms? I was forc'd to yield; and yet I knew not where to begin: For to a Person who understood nothing

of

of Natural Philosophy, you must go a great way about to prove that the Earth may be a Planet, the Planets so many Earths, and all the Stars Worlds: However, to give her a general Notion of Philosophy, I at last resolv'd on this Method. All Philosophy, *said I*, Madam, is founded upon two things; either that we are too short-sighted, or that we are too curious: For if our Eyes were better than they are, we should soon see whether the Stars were Worlds or not; and if, on the other side, we were less curious, we should not care whether the Stars are Worlds or not; which I think is much to the same purpose. But the Business is, we have a mind to know more than we see: And, again, if we could discern well what we do see, it would be too much known to us: but we see things quite otherwise than they are. So that your true Philosopher will not believe what he doth see, and is always conjecturing at what he doth not, which is a Life I think not much to be envy'd. Upon this I fancy to myself, that Nature very much resembleth an Opera; where you stand, you do not see the Stage as really it is; but it is plac'd with advantage, and all the Wheels and Movements are hid, to make the Representation the more agreeable: Nor do you trouble yourself how, or by what means the Machines are mov'd,

tho'

tho' certainly an Engineer in the Pit is affected with what doth not touch you; he is pleas'd with the Motion, and is demonstrating to himself on what it depends, and how it comes to pass. This Engineer then is like a Philosopher; tho' the Difficulty is greater on the Philosopher's part, the Machines of the Theatre being nothing so curious as those of Nature, which dispoſeth her Wheels and Springs so out of sight, that we have been long a guessing at the Movement of the Universe. Suppose then the Sages at an Opera; the *Pythagoras's*, the *Plato's*, the *Aristotle's*, and all the Wise Men who have made such a noise in the World, for these many Ages; we will suppose 'em at the Representation of *Phaeton*, where they see the aspiring Youth lifted up by the Winds, but do not discover the Wires by which he mounts, nor know they any thing of what is done behind the Scenes. Would you have all these Philosophers own themselves to be stark Fools, and confess ingenuously they know not how it comes to pass? No, no; they are not called Wise Men for nothing: Tho', let me tell you, most of their Wisdom depends upon the Ignorance of their Neighbours. Every Man presently gives his Opinion, and how improbable soever, there are Fools enough of all sorts to believe 'em. One tells you *Phaeton* is drawn up by a hidden

Mag-

Magnetick Virtue, no matter where it lies; and perhaps the grave Gentleman will take pet if you ask him the Question. Another says, *Phaeton* is composed of certain Numbers that make him mount; and, after all, the Philosopher knows no more of those Numbers, than a sucking Child of *Algebra*. A third tells you, *Phaeton* hath a secret Love for the top of the Theatre, and, like a true Lover, cannot be at rest out of his Mistress's Company; with an hundred such extravagant Fancies, that a Man must conclude the old Sages were very good Banterers. But now comes Monsieur *Descartes* with some of the Moderns, and they tell you *Phaeton* ascends, because a greater Weight than he descends; so that now we do not believe a Body can move unless it is push'd and forc'd by another Body, and as it were drawn by Cords, so that nothing can rise or fall but by the means of a Counterpoise: He then that will see Nature really as she is, must stand behind the Scenes at the Opera. I perceive, *said the Countess*, Philosophy is now become very mechanical. So mechanical, *said I*, that I fear we shall quickly be asham'd of it; they will have the World to be in great, what a Watch is in little, which is very regular, and depends only upon the just disposing of the several Parts of the Movement. But pray tell me, Madam, had

you

you not formerly a more sublime Idea of the Universe? Do you not think you did then honour it more than it deserv'd? for most have the less esteem of it since they have pretended to know it. I am not of their opinion, *said she*; I value it the more since I know it resembles a Watch; and the whole Order of Nature, the more plain and easy it is, to me it appears the more admirable.

I know not, *said I*, who hath inspir'd you with these solid Notions; but I am certain there are few that have them besides yourself. People generally admire what they do not comprehend, they have a Veneration for Obscurity, and look upon Nature while they do not understand her, as a kind of Magick, and despise her below Legerdemain, when once they are acquainted with her: But I find you, Madam, so much better dispos'd, that I have nothing to do but to draw the Curtain, and shew you the World. That then which appears fartheſt from the Earth (where we reside) is called the Heavens, that azure Firmament, where the Stars are fastned like so many Nails, and are call'd fix'd, because they seem to have no other Motion than that of their Heaven, which carries them with itself from East to West. Between the Earth and this great Vault (as I may call it) hang at different Heights, the *Sun* and the *Moon* with the other Stars, *Mercury*, *Venus*, *Mars*, *Jupiter*, and *Saturn* which

which we call the Planets: These Planets, not being fastned to the same Heaven, and having very unequal Motions, have divers Aspects and Positions; whereas the fix'd Stars, in respect to one another, are always in the same Situation: For example; *Charles' Wain*, which is composed of those seven Stars, hath been, and ever will be, as it now is, tho' the Moon is sometimes nearer to the Sun, and sometimes farther from it; and so it is with the rest of the Planets. Thus Things appear'd to the Old *Chaldean* Shepherds, whose great Leisure did produce those first Observations, which have since been the Foundation of Astronomy; for Astronomy had its birth in *Chaldea*, as Geometry was born in *Egypt*, where the Inundation of the *Nile* confounding the Bounds of their Fields, was an occasion of their inventing exacter Measures to distinguish every one's Land from that of his Neighbour. So that Astronomy was the Daughter of Idleness, Geometry the Daughter of Interest; and if we did but examine Poetry, we should certainly find her the Daughter of Love.

I am glad, said the Lady, I have learnt the Genealogy of the Sciences, and am convinc'd I must stick to Astronomy; my Soul is not mercenary enough for Geometry, nor is it tender enough for Poetry; but I have as much time to spare as Astronomy requires: Beside,

Beſide, we are now in the Country, and lead a kind of Paſtoral Life, all which ſuits beſt with Aſtronomy. Do not deceive your ſelf, Madam, *ſaid I*, 'tis not a true Shepherd's Life to talk of the Stars and Planets: See, if they paſs their Time ſo in *Aſtræa*. That ſort of Shepherd's Craft, *reply'd ſhe*, is too dangerous for me to learn: I love the honeſt *Chaldeans*; and you muſt teach me their Rules, if you would have me improve in their Science. But let us proceed: When they had rank'd the Heavens in that manner you tell me; pray, what is the next Queſtion? The next, *ſaid I*, is the Diſpoſing the ſeveral Parts of the Univerſe, which the Learned call, *Making a Syſtem:* But before I expound the firſt Syſtem, I would have you obſerve, we are all naturally like that Madman at *Athens*, who fancied all the Ships were his that came into the Port *Pyræum:* Nor is our Folly leſs extravagant; we believe all Things in Nature deſign'd for our Uſe; and do but ask a Philoſopher, to what Purpoſe there is that prodigious Company of fixed Stars, when a far leſs Number would perform the Service they do us? He anſwers coldly, they were made to pleaſe our Sight. Upon this Principle they imagined the Earth reſted in the Centre of the Univerſe, while all the Celeſtial Bodies (which were made for it) took the Pains to turn round to give light to it. They plac'd the Moon above the Earth;

Mercury above the Moon, after *Venus* the Sun, *Mars*, *Jupiter*, *Saturn*: Above all these they set the Heaven of fixed Stars, the Earth was just in the middle of those Circles which contain the Planets; and the greater the Circles were, they were the farther Distant from the Earth, and by Consequence the fartheſt Planets took up the most Time in finishing their Course; which, in Effect, is true. But why, *said the Countess*, interrupting me, do you dislike this System? It seems to me very clear and intelligible. However, Madam, *said I*, I will make it plainer; for should I give it you as it came from *Ptolemy* its Author, or some other who have since studied it, I should fright you, I fancy, instead of diverting you. Since the Motions of the Planets are not so regular, but that sometimes they go faster, sometimes slower, sometimes are nearer the Earth, and sometimes farther from it: The Antients did invent I do not know how many Orbs or Circles involv'd one within another, which they thought would solve all Objections: This Confusion of Circles was so great, that, at that time, when they knew no better, a certain King of *Arragon*, a great Mathematician, but not much troubled with Religion, said, *That had God consulted him when he made the World, he would have told him how to have framed it better*. The Fancy was very atheistical, and no doubt the Instructions

he

he would have given the Almighty, was the Suppreſſing thoſe Circles with which they had clogg'd the Celeſtial Motions, and the taking away two or three ſuperfluous Heavens, which they plac'd above the fixed Stars: For theſe Philoſophers to explain the Motion of the Celeſtial Bodies, had above the uppermoſt Heaven, (which we ſee) found another of Chryſtal, to influence and give Motion to the inferior Heavens; and wherever they heard of another Motion, they preſently clapp'd up a Chryſtal Heaven, which coſt 'em nothing. But why muſt their Heaven be of Chryſtal, *ſaid the Counteſs*; would nothing elſe ſerve as well? No, no, *I reply'd*, nothing ſo well; for the Light was to come thro' them, and yet they were to be ſolid. *Ariſtotle* would have it ſo, he had found Solidity to be one of their Excellencies; and, when he had once ſaid it, no Body would be ſo rude as to queſtion it. But it ſeems there were Comets much higher than the Philoſophers expected, which, as they paſs'd along, brake the Chryſtal Heavens, and confounded the Univerſe: But to make the beſt of a bad Market, they preſently melt down their broken Glaſs, and to *Ariſtotle*'s Confuſion, made the Heavens fluid; and by the Obſervations of theſe latter Ages, it is now out of doubt, that *Venus* and *Mercury* turn round the Sun, and not round the Earth, according to the antient

Syſtem, which is now every where exploded, and all the *Ipſe dixits* not worth a Ruſh. But that which I am going to lay down, will ſolve all, and is ſo clear, that the King of *Arragon* himſelf may ſpare his Advice. Methinks, *ſaith the Counteſs*, your Philoſophy is a kind of Outcry, where he that offers to do the Work cheapeſt, carries it from all the reſt. 'Tis very true, *ſaid I*, Nature is a great Huſwife, ſhe always makes uſe of what coſts leaſt, let the Difference be ever ſo inconſiderable; and yet this Frugality is accompany'd with an extraordinary Magnificence, which ſhines thro' all her Works; that is, ſhe is magnificent in the Deſign, but frugal in the Execution; and what can be more praiſe-worthy, than a great Deſign accompliſh'd with a little Expence? But in our Ideas, we turn Things topſy-turvy; we place our Thrift in the Deſign, and are at ten times more Charge in the Workmanſhip than it requires, which is very ridiculous. Imitate Nature then, *ſaith ſhe*, in your Syſtem, and give me as little Trouble as you can to comprehend you. Fear it not, Madam, *ſaid I*, we have done with our Impertinencies: Imagine then, a *German* call'd *Copernicus*, confounding every Thing, tearing in Pieces the beloved Circles of Antiquity, and ſhattering their Chryſtal Heavens like ſo many Glaſs Windows; ſeiz'd with the noble Rage of Aſtronomy, he ſnatcheth

up

up the Earth from the Centre of the Universe, sends her packing, and placeth the Sun in the Centre, to which it did more justly belong; the Planets no longer turn round the Earth, and do not include it in the Circles they describe; if they give us Light, it is but by Chance, and as they meet us in their Way. All now turns round the Sun; the Earth herself goes round the Sun, and *Copernicus*, to punish the Earth for her former Laziness, makes her contribute all he can to the Motion of the Planets and Heavens; and now stripp'd of all the heavenly Equipage, with which she was so gloriously attended, she hath nothing left her but the *Moon*, which still turns round about her. Fair and softly, *saith the Countess*, I fancy you yourself are seiz'd with the noble Fury of Astronomy; a little less Rapture, and I shall understand you the better. The Sun, you say, is in the Centre of the Universe, and is immoveable; what follows next? It is *Mercury*, *said I*, he turns round the Sun; so that the Sun is the Centre of the Circle wherein *Mercury* moves; above *Mercury* is *Venus*, who turns also round the Sun; after comes the Earth, which being placed higher than *Mercury* and *Venus*, makes a greater Circle round the Sun than either of them; at last come *Mars*, *Jupiter*, *Saturn*, in the same Order I name 'em; so that *Saturn* hath the greatest Circle round the Sun, which is

the Reaſon he is a longer Time in making his Revolution than any of the other Planets. And the Moon, you have forgot her, *ſaid ſhe.* We ſhall quickly find her again, *ſaid I*; the Moon turns round the Earth, and doth not leave her, but as the Earth, advanceth in the Circle, which ſhe deſcribes about the Sun; and if the Moon turns round the Sun, it is becauſe ſhe will not quit the Earth. I underſtand you, *ſaid ſhe*, and I love the Moon for ſtaying with us when all the other Planets do abandon us; nay, I fear your *German* would have willingly taken her away too if he could, for in all his Proceedings I find he had a great Spite to the Earth. 'Twas well done of him, *ſaid I*, to abate the Vanity of Mankind, who had taken up the beſt Place in the Univerſe, and it pleaſeth me to ſee the Earth in the Crowds of the Planets. Sure, *ſaid ſhe*, you do not think their Vanity extends it ſelf as far as Aſtronomy! Do you believe you have humbled me, in telling me the Earth goes round the Sun? For my Part, I do not think myſelf at all the worſe for't. I confeſs, *ſaid I*, Madam, I believe a fair Lady would be much more concern'd for her Place at a Ball, than for her Rank in the Univerſe; and the Precedence of two Planets will not make half ſuch a Noiſe in the World as that of two Ambaſſadors. However, the ſame Inclination which reigns at a Ceremony, governs

in

in a Syſtem; and if you love the uppermoſt Place in the one, the Philoſopher deſires the Center in the other; he flatters himſelf that all Things were made for him, and inſenſibly believes a Matter of pure Speculation to be a Point of Intereſt. This is a Calumny, *ſaid ſhe*, you have invented againſt Mankind; why did they receive this Syſtem, if it was ſo abaſing? I know not, *ſaid I*, but I am ſure *Copernicus* himſelf diſtruſted the Succeſs of his Opinion, he was a long time before he would venture to publiſh it, nor had he done it then without the Importunity of his Friends. But do you know what became of him? The very Day they brought him the firſt Proof of his Book, he dy'd: He foreſaw he ſhould never be able to clear all the Contradictions, and very wiſely ſlipt out of the Way. I would be juſt to all the World, *ſaid the Counteſs*, but 'tis hard to fancy we move, and yet ſee we do not change our Place; we find our ſelves in the Morning where we lay down at Night: Perhaps, you will tell me the whole Earth moves. Yes, certainly, *ſaid I*, it is the ſame Caſe as if you fell aſleep in a Boat upon the River; when you awake, you find your ſelf in the ſame Place, and the ſame Situation, in reſpect of all the Parts of the Boat. 'Tis true, *ſhe reply'd*; but here's a great Difference, when I awake, I find another Shore, and that ſhews me my Boat hath

changed Place; but 'tis not the same with the Earth. I find all Things as I left 'em. No, no, *said I*, there is another Shore too; you know that beyond the Circles of the Planets are fixed Stars, there is our Shore. I am upon the Earth, and the Earth makes a great Circle round the Sun, I look for the Centre of the Circle, and see the Sun there; I then direct my Sight beyond the Sun in a right Line, and should certainly discover the fixed Stars which answer to the Sun, but that the Light of the Sun effaceth 'em: But, at Night, I easily perceive the Stars which correspended with him in the Day, which is exactly the same Thing; if the Earth did not change its Place in the Circle where it is, I should see the Sun always against the same fixed Stars; but when the Earth doth change its Place, the Sun must answer to other Stars; and there again is your Shore, which is always changing. And seeing the Earth makes her Circle in a Year, I see the Sun likewise in the Space of a Year answer successively to the whole Circle of the fixed Stars, which Circle is called the *Zodiack*; I will draw you the Figure of it, if you please, on the Sand. 'Tis no Matter, *said she*, I can do well enough without it; beside, it will give an Air of Learning to my Park, which I would not have in it: For I have heard of a certain Philosopher, who being shipwreck'd and cast upon an unknown

unknown Island, seeing several Mathematical Figures traced on the Sea-shore, cry'd out to those that follow'd him, Courage, Courage, my Companions, the Isle is inhabited; behold the Footsteps of Men: But you may spare your Figures; such Footsteps are not decent here.

I confess, *said I*, Madam, the Footsteps of Lovers would better become this Place; that is, your Name and Cypher grav'd on the Trees by your Adorers. Tell not me, *said she*, of Lovers and Adorers; I am for my beloved Sun and Planets. But how comes it to pass that the Sun, as to the fixed Stars, compleats his Course but in a Year, and yet goes over our Heads every Day? Did you never, *I reply'd*, observe a Bowl on a Bowling-Green? It runs towards the Block, and at the same time turns very often round itself, so that the Parts which were above are below, and those which were below are above; just so it is with the Earth at the same time that she advanceth on the Circle, which in a Year's space she makes round the Sun; in twenty four Hours she turns round herself, so that in twenty four Hours every part of the Earth loseth the Sun, and recovers him again, and as it turns towards the Sun, it seems to rise; and as it turns from him, it seems to fall. It is very pleasant, *said she*, that the Earth must take all upon her self, and the Sun do nothing. And

when

when the Moon, the other Planets and the fixed Stars seem to go over our Heads every twenty four Hours, you'll say that too is only Fancy? Pure Fancy, *said I*, which proceeds from the same Cause; for the Planets compleat their Courses round the Sun at unequal times, according to their unequal distances; and that which we see to Day answer to a certain Point in the Zodiack or Circle of the fixed Stars, to-morrow we see answer to another Point, because it is advanc'd on its own Circle, as well as we are advanced upon ours. We move, and the Planets move too, which must make a great Alteration; so that what seems irregular in the Planets, proceeds only from our Motion, when in truth they are all very regular. I will suppose 'em so, *said the Countess*; but I would not have their Regularity put the Earth to so great Trouble: Methinks you exact too much Activity from so ponderous a Mass. But, *said I*, had you rather that the Sun and all the Stars, which are vast great Bodies, should in twenty four Hours travel such an Infinity of Miles, and make so prodigious a *Tour* as they needs must, if the Earth did not turn round it self every twenty four Hours; Oh, *said she*, the Sun and the Stars are all Fire, their Motion is not very difficult; but the Earth, I fancy, is a little unwieldy. That signifies nothing, *I reply'd*, for what do you think of a First-Rate Ship, which

which carries near an hundred Guns, and a thousand Men, besides her Provisions and other Furniture? You see one Puff of Wind makes it sail on the Water, because the Water is liquid, and being easily separated, doth very little resist the Motion of the Ship: So the Earth, tho' never so massive, is as easily borne up by the Celestial Matter, which is a thousand times more fluid than the Water, and fills all that great Space where the Planets float; for where would you the Earth should be fastened to resist the Motion of the Celestial Matter, and not be driven by it? You may as well fancy a little Block of Wood can withstand the Current of a River. But pray, *said she*, how can the Earth, with all its Weight, be borne up by your Celestial Matter, which must be very light, because it is so fluid? It doth not argue, *said I*, that what is most fluid is most light: For what think you of the great Vessel I mention'd but now, which with all its Burden is yet lighter than the Water it floats on? I will have nothing to do with that great Vessel, *said she*; and I begin to apprehend my self in some danger on such a Whirlegig as you have made of the Earth. There is no danger, *I reply'd:* But, Madam, if you are afraid, we will have the Earth supported by four Elephants, as the *Indians* believe it. Hey day, *cry'd she*, here's another System; however, I love those People for taking care

of

of themselves; they have a good Foundation to trust to, while you *Copernicians* are a little too venturous with the Celestial Matter: And yet I fancy, if the *Indians* thought the Earth in the least danger of sinking, they would double their Number of Elephants. They do well, *said I*, laughing at her Fancy, who would sleep in Fear? And if you have occasion for 'em to-night, we will put as many as you please in our System; we can take 'em away again by degrees, as you grow better confirm'd. I do not think 'em very necessary, *said she*; I have courage enough to turn. You shall turn with pleasure, Madam, *said I*, and shall find delightful Ideas in this System: For example, sometimes, I fancy my self suspended in the Air without any Motion, while the Earth turns round me in twenty four Hours; I see I know not how many different Faces pass under me, some white, some black, and some tauny; sometimes I see Hats, and sometimes Turbants; now Heads with Hair, and then shav'd Heads; here I see Cities with Steeples, others with Spires and Crescents, others with Towers of Porcelain, and anon great Countreys with nothing but Cottages: Here I see vast Oceans, and there most horrible Desarts: In short, I discover the infinite Variety which is upon the Surface of the Earth. I confess, *said she*, twenty four hours would thus be very well bestow'd,

ſtow'd, ſo we were in the ſame place where we are now, I do not mean in the Park; but we will ſuppoſe our ſelves in the Air, other People continually paſſing by, who take up our Place, and at the end of twenty four Hours we return to it again.

COPERNICUS himſelf, *ſaid I*, could not have comprehended it better. First then, we ſee ſome of our Neighbours paſſing by us, up to the Ears in Politicks, yet ſettling their Nation no better than we do the World in the Moon; then follows a great Sea, perhaps a Fleet of Ships, perhaps a Mackrel-Boat, no matter whether; then come ſome of the *Iroquois* going to eat a Priſoner for their Breakfaſt, who ſeems as little concern'd as his Devourers; after appear, the Women of the Land of *Jeſſo*, who ſpend all their time in dreſſing their Husbands Dinners, and Suppers, and painting their Lips and Eye-brows blue, only to pleaſe the greateſt Villains in the World; then the fair *Circaſſians*, who are very free of their Favours, and grant all to the firſt Comer, except a little they reſerve for their Husbands; then the *Tartars* going to ſteal Concubines for the *Turks* and *Perſians*; and at laſt our own dear Countrymen, it may be in ſome Points as ridiculous as the beſt of 'em. It is very pleaſant, *ſaid the Counteſs*, but to imagine what you tell me: Tho' if I was above, and ſaw all this, I would have the liberty to haſten

or

or retard the Motion of the Earth, according as the Objects pleas'd me more or less; and I assure you I should quickly send packing the *Politicians* and *Man-eaters*, but should have a great Curiosity for the fair *Circassians*, for methinks they have a Custom very particular. They are so extremely beautiful, *said I*, that their Husbands have enough, and to spare to a Stranger. I fear then, *said she*, the Women of our Country are very ugly, in respect of those fair Ladies; for the Husbands part with nothing here, but keep all to themselves. 'Tis because they make more use, *I reply'd*, of------Hold your peace, *said she*, and no more of your Fooleries. I have a Difficulty to clear, and you must be serious. As the Earth moves, the Air changeth every Moment, so we breathe the Air of another Country. Not at all, *I reply'd*; for the Air which encompasseth the Earth, doth not extend above a certain Height, perhaps twenty Leagues; it follows us, and turns with us. Have you not seen the Work of a Silk-Worm, the Shells which those little Animals imprison themselves in, and weave with so much Art? They are made of a Silk very close, but are covered with a Down very slack and soft: So the Earth, which is solid, is cover'd from the Surface twenty Leagues upwards with a kind of Down, which is the Air, and all the Shell of the Silk-Worm turns at the same time.

Beyond

Beyond the Air is the Celeſtial Matter, incomparably more pure and ſubtle, and much more agitated than the Air. Your Compariſon, *ſaid ſhe*, is ſomewhat mean, and yet what Wonders are wrought, what Wars, what Changes in this little Shell? 'Tis true, *I reply'd*, but Nature takes no notice of ſuch little particular Motions, but drives us along with the general Motion, as if ſhe were at Bowls. Methinks, *ſaid ſhe*, 'tis very ridiculous to be upon a thing that turns, and yet not be well aſſur'd that it doth turn; and to tell you the Truth, I begin to diſtruſt the Reaſons you give why we ſhould not be ſenſible of the Motion of the Earth; for is it poſſible there ſhould not ſome little Mark be left, by which we might perceive it?

ALL Motions, *ſaid I*, the more common and natural they are, are the leſs perceptible; and this holds true even in Morality. The Motion of Self-love is ſo natural to us, that for the moſt part we are not ſenſible of it, and we believe we act by other Principles. You are Moralizing, *ſaid ſhe*, to a Queſtion of Natural Philoſophy: But 'tis enough for the firſt time; let us now go home, and meet here again to-morrow, you with your Syſtems, and I with my Ignorance.

IN returning back to the Caſtle, that I might ſay all I could on the Subject, I told her of a third Syſtem, invented by *Tycho Brahe*,

Brahe, who had fixed the Earth in the Centre of the World, turn'd the Sun round the Earth, and the rest of the Planets round the Sun; for since the new Discoveries, there was no way left to have the Planets turn round the Earth. But the Countess, who had a quick Apprehension, said, she thought it was too affected, among so many great Bodies, to exempt the Earth only from turning round the Sun; that it was improper to make the Sun turn round the Earth, when all the Planets turn round the Sun: And that tho' this System was to prove the Immobility of the Earth, yet she thought it very improbable. So we resolv'd to stick to *Copernicus*, whose Opinion we thought most uniform, probable, and diverting.

The Second Evening.

IN the Morning I sent to the Countess's Apartment, to know how she had rested, and whether the Motion of the Earth had not disturbed her? She answer'd, she began to be accustomed to it, and that she had slept as well as *Copernicus* himself. Soon after, there came some Neighbours to dine with her; but they went away in the Evening; so that after

after Supper we walk'd again into the Park, and immediately fell upon our Syſtems. She ſo well conceiv'd what I told her the Night before, that ſhe deſir'd I would proceed without any Repetition. Well, Madam, *ſaid I*, ſince the Sun, which is now immoveable, hath left off being a Planet, and the Earth which turns round him, is now become one, you will not be ſurpriz'd when you hear that the Moon is an Earth too, and that ſhe is inhabited as ours is. I confeſs, *ſaid ſhe*, I have often heard talk of the World in the Moon, but I always look'd upon it as viſionary, and mere Fancy. And it may be ſo ſtill, *ſaid I*; I am in this caſe as People in a Civil War, where the uncertainty of what may happen makes 'em hold intelligence with the oppoſite Party: For tho' I verily believe the Moon is inhabited, I live civilly with thoſe who do not believe it; and I am (as ſome honeſt Gentlemen in point of Religion) ſtill ready to embrace the prevailing Opinion: But till the Unbelievers have a more conſiderable Advantage, I am for the People in the Moon.

SUPPOSE there had never been any Communication between *London* and *Greenwich*, and a Cockney who was never beyond the Walls of *London*, ſaw *Greenwich* from the top of a Pyramid, you ask him if he believes *Greenwich* is inhabited as *London* is? He preſently Anſwers, No: For, *ſaith he*, I ſee

People at *London*, but none at *Greenwich*, nor did I ever hear of any there. 'Tis true, you tell him, that from the Pyramid he cannot perceive any Inhabitants at *Greenwich*, because of the Distance; but all that he doth discover of *Greenwich*, very much resembleth what he sees at *London*, the Steeples, Houses, Walls; so that it may very well be inhabited as *London* is: All this signifies nothing, my Cockney still persists, *Greenwich* is not inhabited, because he sees no Body there. The Moon is our *Greenwich*, and every one of us as mere Cockneys as he that never was out of the Sound of *Bow-Bell*. You are too severe, *said she*, upon your Fellow-Citizens; we are not all sure so silly as your Cockney; since *Greenwich* is just as *London* is, he is a Fool, if he doth not think it inhabited: But the Moon is not at all like the Earth. Have a care of what you say, *I reply'd*; for if the Moon resembleth the Earth, you are under a necessity to believe it inhabited. If it be so, *said she*, I own I cannot be dispens'd from believing it; and you seem so confident of it, that I fear I must, whether I will or no. 'Tis true, the two Motions of the Earth, (which I could never imagine till now) do a little stagger me as to all the rest: But yet how is it possible the Earth should enlighten as the Moon doth, without which they cannot be alike? If that be all, *said I*, the Difference is not great,

great, for 'tis the Sun which is the ſole Fountain of Light: That Quality proceeds only from him; and if the Planets give Light to us, it is becauſe they firſt receive it from the Sun: The Sun ſends Light to the Moon, and ſhe reflects it back on the Earth: The Earth in the ſame manner receives Light from the Sun, and ſends it to the Moon; for the Diſtance is the ſame between the Earth and the Moon, as between the Moon and the Earth. But is the Earth, *ſaid the Counteſs*, as fit to ſend back the Light of the Sun, as the Moon is? You are altogether for the Moon, *ſaid I*, ſhe is much oblig'd to you; but you muſt know that Light is made up of certain little Balls, which rebound from what is ſolid, but paſs thro' what admits of an entrance in a right Line, as Air or Glaſs; ſo that, that which makes the Moon enlighten us, is, that ſhe is a firm and ſolid Body, from which the little Balls rebound; and we muſt deny our Senſes, if we will not allow the Earth the ſame Solidity. In ſhort, the Difference is how we are ſeated; for the Moon being at ſo vaſt a diſtance from us, we can only diſcover her to be a Body of Light, and do not perceive that ſhe is a great Maſs, altogether like the Earth: Whereas, on the contrary, becauſe we are ſo near the Earth, we know her to be a great Maſs, but do not diſcover her to be a Body of Light, for want of the

due distance. It is just so with us all, *said the Countess*; we are dazled with the Quality and Fortune of those who are above us; when, do but look to the bottom, and we are all alike.

VERY true, *said I*; we would judge of all things, but still stand in the wrong place: We are too near to judge of our selves, and too far off to know others. So that the true way to see things as they are, is to be between the Moon and the Earth, to be purely a Spectator of this World, and not an Inhabitant. I shall never be satisfy'd, *said she*, for the Injustice we do the Earth, and the too favourable Opinion we have of the Moon, till you assure me that the People in the Moon are as little acquainted with their Advantages as we are with ours, and that they take our Earth for a Planet, without knowing theirs is one too. Do not doubt it, *said I*; we appear to them to perform very regularly our Function of a Planet. 'Tis true, they do not see us make a Circle round them, but that is no great Matter. That half of the Moon which was turn'd towards us at the beginning of the World, hath been turn'd towards us ever since; the Eyes, Mouth, and Face, which we have fancied of the Spots in her, are still the same; and if the other opposite half should appear to us, we should no doubt fancy another Figure from the different Spots that are in it:

Not

Not but that the Moon turns upon her self; and in the same time that she turns round the Earth, that is in a Month; but while she is making that turn upon her self, and that she should hide a Cheek for example, and appear somewhat else to us, she makes a like part of her Circle round the Earth, and still presents to us the same Cheeks: So that the Moon, who in respect of the Sun and Stars, turns round her self; in respect of us, doth not turn at all: They seem to her to rise and set in the space of fifteen Days; but for our Earth, it appears to her to be held up in the same place of the Heavens. 'Tis true, this apparent Immobility is not very agreeable for a Body which should pass for a Planet, but it is not altogether perfect; the Moon hath a kind of trembling, which causeth a little Corner of her Face to be sometimes hid from us, and a little Corner of the opposite half appears; but then, upon my Word, she attributes that trembling to us, and fancies that we have in the Heavens the Motion of a *Pendulum*, which vibrates to and fro.

I find, *saith the Countess*, the Planets are just like us; we cast that upon others which is in ourselves: The Earth saith, *'Tis not I that turn; 'tis the Sun:* The Moon saith, *'Tis not I that shake; 'tis the Earth:* There is a great deal of Error every where. But I would not advise you, *said I*, to undertake the reforming it; you had

had better convince yourſelf of the entire Reſemblance of the Earth and the Moon. Imagine then theſe two great Bowls held up in the Heavens; you know that the Sun always enlightens the one half of a Body that is round, and the other half is in the Shadow: There is then one half of the Earth, and one half of the Moon, which is enlighten'd by the Sun; that is, which hath Day, and the other half which is Night. Obſerve, alſo, that as a Ball has leſs force after it hath been ſtruck againſt a Wall, which ſends it to the other ſide; ſo Light is weakned when it is reflected. This pale Light which comes to us from the Moon, is the very Light of the Sun; but it cannot come to us from the Moon but by Reflexion: it hath loſt much of the Force and Luſtre it had when it came directly from the Sun upon the Moon; and that bright Light which ſhines directly upon us from the Sun, and which the Earth reflects upon the Moon, is as pale and weak when it arrives there: So that the Light which appears to us in the Moon, and which enlightens our Nights, is the Parts of the Moon which have Day; and that Part of the Earth which hath Day, when it is oppoſite to the Part of the Moon which hath Night, gives Light to it. All depends upon how the Moon and the Earth behold one another. At the Beginning

ginning of the Month, we do not see the Moon, because she is between the Sun and us; that Half of her which hath Day, is then turned toward the Sun; and that Half which hath Night, turn'd toward us, we cannot see it then, because it hath no Light upon it: But that Half of the Moon which hath Night, being turned to the Half of the Earth which hath Day, sees us without being perceiv'd; and we then appear to them just as the Full-Moon doth to us. So that, as I may say, the People of the Moon have then a full Earth; but the Moon being advanc'd upon her Circle of a Month, comes from under the Sun, and begins to turn toward us, a little Corner of the Half which is Light; there's the Crescent: Then those Parts of the Moon which have Night do not see all the Half of the Earth which hath Day, and we are then in the Wayn to them.

I comprehend you very well, *said the Countess*; the People in the Moon have a Month quite contrary to us; when we have a full Moon, their Half of the Moon which is light, is turned to our Half of the Earth which is dark; they do not see us at all, and they have then a new Earth; this is plain. But now tell me how come the Eclipses? You may easily guess that, *said I*; when it is new Moon, that she is between the Sun and us, and all her dark

Half

Half is turned towards us who have Light, that obſcure Shadow is caſt upon us; if the Moon be directly under the Sun, that Shadow hides him from us, and at the ſame time obſcures a Part of that Half of the Earth which is light, which was ſeen by that Half of the Moon which was dark: Here then is an Eclipſe of the Sun to us during our Day, and an Eclipſe of the Earth to the Moon during her Night. When it is full Moon, the Earth is between her and the Sun, and all the dark Half of the Earth is turned towards all the light Half of the Moon; the Shadow then of the Earth caſts itſelf towards the Moon, and if it falls on the Moon, it obſcures that light Half which we ſee, which hath then Day, and hinders the Sun from ſhining on it. Here then is an Eclipſe of the Moon to us during our Night, and an Eclipſe of the Sun to the Moon during our Day: But the Reaſon that we have not Eclipſes every time that the Moon is between the Sun and the Earth, or the Earth between the Sun and the Moon, is becauſe theſe three Bodies are not exactly placed in a right Line, and by conſequence that, that ſhould make the Eclipſe, caſts its Shadow a little beſide that which ſhould be obſcured.

I am ſurprized, *ſaid the Counteſs*, that there ſhould be ſo little Myſtery in Eclipſes,

ſes, and that the whole World ſhould not know the cauſe of 'em. Nor never will, *ſaid I*, as ſome People go about it. In the *Eaſt-Indies*, when the Sun and Moon are in Eclipſe, they believe a certain Devil who hath black Claws, is ſeizing on thoſe Planets with his Talons; and during that time the Rivers are cover'd with the Heads of *Indians*, who are up to the Neck in Water, becauſe they eſteem it a very devout Poſture, to implore the Sun and the Moon to defend themſelves againſt the Devil. In *America*, they are perſuaded that the Sun and the Moon, when eclips'd, are angry; and what is it they will not do to be reconciled with them? The *Greeks*, who were ſo refined, did they not believe the Moon was enchanted, and that the Magicians forc'd her to deſcend from Heaven, and ſhed a dangerous Juice on the Plants? Nay, what a panick Fear were we in, above thirty Years ago, at an Eclipſe of the Sun? How many People hid themſelves in their Cellars; and all the Philoſophers of *Greſham* could not perſuade them to come out till the Eclipſe was over?

Methinks, *ſaid ſhe*, 'tis ſcandalous for Men to be ſuch Cowards; there ought to be a general Law of Mankind to prohibit the diſcourſing of Eclipſes, that we might not call to mind the Follies that have been ſaid and done upon that Subject. Your

Law then, *said I*, must abolish even the memory of all Things, and forbid us to speak at all; for I know nothing in the World which is not a Monument of the Folly of Man.

But what do you think, *said she*, of the People in the Moon; are they as afraid of an Eclipse as we are? It would be very burlesque for the *Indians* there to be up to the Neck in Water; that the *Americans* should believe the Earth angry with them; the *Greeks* fancy we were bewitched, and would destroy their Plants; in short, that we should cause the same Consternation among them, as they do here. And why not, *said I?* I do not doubt it at all; for why should the People of the Moon have more Wit than we? What right have they to affright us, and not we them? For my part, I believe that since a prodigious Company of Men have been, and still are, such Fools to adore the Moon, there are People in the Moon that worship the Earth, and that we are upon our Knees the one to the other. But sure, *said she*, we don't pretend to send any Influences to the Moon, and to give a Crisis to her Sick; if the People have any Wit in those Parts, they will soon destroy the Honour we flatter ourselves with, and I fear we shall have the Disadvantage.

FEAR it not, Madam, *said I*; do you think we are the only Fools of the Universe? Is it not consistent with Ignorance, to spread itself every where? 'Tis true, we can only guess at the Folly of the People in the Moon, but I no more doubt it, than I do the most authentick News that comes from thence. What News comes from thence, *said she?* That which the Learned bring us, *I reply'd*, who travel thither every Day with their Tubes and Telescopes: They will tell you of their Discoveries there, of Lands, Seas, Lakes, high Mountains, and deep Abysses.

I fancy indeed, *said she*, they may discover Mountains and Abysses, because of the remarkable Inequality; but how do they distinguish Lands and Seas? Very easily, *said I*; for the Waters letting part of the Light pass thro' them, send back but a very little, so that they appear afar off like so many dark Spots; whereas the Lands being solid, reflect the whole Light, and appear to be more bright and shining; nay, they pretend to be so well acquainted with the several Parts, that they have given them all Names: One Place they call *Copernicus*, another *Archimedes*, another *Galileus:* There is the *Caspian-Sea*, the *Black-Lake*, the *Porphirite Mountains*; in short, they have publish'd such exact Descriptions of the Moon, that a very

Almanack-maker will be no more to seek there, than I am in *London*.

I must own then, *said the Countess*, they are very exact; but what do they say to the inside of the Country? I would very fain know that. 'Tis impossible, *Ireply'd*; Mr. *Flamsted* himself (one of the most Learned Astronomers of our Age) cannot inform you. You must ask that of *Astolfo*, who was carried into the Moon by St. *John*. I am going to tell you one of the agreeable Follies of *Ariosto*, and I am confident you will be well pleased to hear it: I must confess he had better have let alone St. *John*, whose Name is so worthy of Respect; but 'tis a poetical Licence, and must be allow'd. The Poem is dedicated to a Cardinal, and a great Pope hath honour'd it with his Approbation, which is prefix'd to several of the Editions: This is the Argument. *Rowland*, Nephew to *Charlemain*, falls mad, because the fair *Angelica* prefers *Medore* before him. *Astolfo*, a Knight-Errant, finding himself one day in the terrestrial Paradise, which was upon the top of a very high Mountain, whereto he was carry'd by his flying Horse, meets St. *John* there, who tells him, if he would have *Rowland* cured, he must make a Voyage with him into the Moon. *Astolfo*, who had a great mind to see Countries, did

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not ſtand much upon entreaty, and immediately there came a fiery Chariot which carried the Apoſtle and the Knight into the Air. *Aſtolfo*, being no great Philoſopher, was ſurpriz'd to find the Moon ſo much bigger than it appear'd to him when he was upon the Earth; to ſee Rivers, Seas, Mountains, Cities, Foreſts, nay, what would have ſurpriz'd me too, Nymphs hunting in thoſe Foreſts: But that which was moſt remarkable, was a Valley where you might find any thing that was loſt in our World, of what Nature ſoever; Crowns, Riches, Fame, and an Infinity of Hopes: The Time we ſpend in Play, and in ſearching for the Philoſopher's Stone; the Alms we give after our Death, the Verſes we preſent to great Men and Princes, and the Sighs of Lovers. I know not, *ſaid ſhe*, what became of the Sighs of Lovers in the time of *Aſtolfo*; but I fancy there are very few of them aſcend to the Moon in our Days. Ah, Madam, *reply'd I*, how many doth the Counteſs of *D----r* ſend thither every day? Thoſe that are addreſs'd to her, will make a conſiderable Heap; and I aſſure you the Moon keeps all ſafe that is loſt here below. Yet I muſt tell you, *Orlando* doth but whiſper it, though every thing is there, even to the Donation of *Conſtantine*, *i. e.* the Popes have pre-

tended to be Masters of *Rome* and *Italy* by virtue of a Donation which the Emperor *Constantine* made *Sylvester*; and the Truth is, Nobody knows what is become of it. But what do you think is not to be found in the Moon? Folly, all that ever was upon the Earth is kept there still; but, in lieu of it, it is not to be imagin'd how many Wits (if I may so call them) that are lost here, are got up into the Moon; they are so many Vials full of a very subtile Liquor, which evaporates immediately, if it be not well stopp'd; and upon every one of these Vials the Names are written to whom the Wits belong: I think *Ariosto* hath heap'd 'em upon one another a little confusedly, but for Order sake, we will fancy them plac'd upon Shelves in a long Gallery. *Astolfo* wonder'd to see several Vials full, inscrib'd with the Names of the most considerable Statesmen, Divines, Lawyers, *&c.* Bless me, *said he*, is my Lord ------- and my Lord ------ here! Sir *Tho.* Sir *Jo.* nay, Doctor --------, and Father -------- too! Why, in my Country, we look upon 'em as Oracles; and, after all, it seems they are but little better than mad Men, if not stark Fools. I find now the poor Rogue was in the right, though he was soundly whipp'd for it, who told the Judge, that he had seen an Ass clothed in

in Scarlet; and a right Worſhipful Alderman, that he knew not which was the greateſt Brute of the two, the Beaſt that bore the Fur, or the Beaſt that wore it. But had I been there, I ſhould have told *Aſtolfo*, the ſawcy Knave was well enough ſerv'd; for we are not to look upon the Man, but the Place he fills: We are to reverence a Magiſtrate when and whereſoever we meet him, and to ſuppoſe his Merit was the ſole Cauſe of his Preferment, tho' we are certain it came by Bribery or Pimping. But enough of this; let us return to our Vials. To confeſs the Truth, I begin to fear, ſince I have entertain'd you with thoſe Philoſophical and Poetical Viſions, mine there is not very empty: However, 'tis ſome Conſolation to me, that, while you are ſo attentive, you have a little Glaſs full as well as your Servant: The good Knight found his own Wit amongſt the reſt, and, with the Apoſtle's leave, ſnuff'd it all up his Noſe, like ſo much Queen of *Hungary*'s Water; but *Arioſto* ſaid, he did not carry it far, it returned again to the Moon a little after.

*---*The Love of one fair Northern Laſs,*
Sent up his Wit unto the Place it was.

* Sir *Jo. Harrington*'s *Tranſlation of* Orlando Furioſo, *l.b.* 36.

WELL, he did not forget *Orlando*'s Vial, which was the Occasion of his Voyage; but he was cursedly plagu'd to carry it, for *Heroes* Wits are naturally very heavy, and there did not want one Drop of it: In conclusion, *Ariosto*, according to his laudable Custom, addresseth himself to his Mistress in this manner:

Fair Mistress, who for me to Heav'n shall fly,
To bring again from thence my wandring
[*Wit?*
Which I still lose, since from that piercing Eye,
The Dart came forth that first my Heart
[*did hit:*
Nor of my Loss at all complain would I,
Might I but keep that which remaineth yet:
But if it still decrease, within short space,
I doubt I shall be in Orlando's *case.*

Yet, well I wot where to recover mine,
Tho not in Paradise, nor Cynthia's *Sphere,*
Yet doubtless in a Place no less divine,
In that sweet Face of yours, in that fair,
[*Hair,*
That ruby Lip, in those two starlike Eyes,
There is my Wit, I know it wanders there;
And with my Lips, if you would give me leave,
I there would search, I thence would it re-
[*ceive.*

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Is not this very fine? To reason like *Ariosto*, the safest Way of losing our Wits is to be in love; for you see they do not go far from us, we may recover them again at our Lips; but when we lose 'em by other means, as for example, by Philosophizing, whip, they are gone into the Moon, and there is no coming at 'em again when we would. However, *said the Countess*, our Vials have an honourable Station among the Philosophers, when 'tis forty to one but Love fixeth our Wits on an Object we cannot but be asham'd of. But to take away mine entirely, pray tell me, but tell me seriously, if you believe there are any Men in the Moon; for methinks hitherto you have not been very positive. For my part, *said I*, I do not believe there are Men in the Moon: For do but observe how much the Face of Nature is chang'd between this and *China*; other Visages, Shapes, Manners, nay, almost other Principles of Reason; and therefore between us and the Moon the Alteration must be much more considerable. In the Lands that have been lately discover'd, we can scarce call the Inhabitants Men; they are rather Animals of human Shape, and that too sometimes very imperfect, almost without human Reason; he therefore that will travel to

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the Moon, must not expect to find Men there.

WHAT sort of People will they be then, *said the Countess?* Troth, Madam, *said I*, I know not: for put the Case that we our selves inhabited the Moon, and were not Men, but rational Creatures, could we imagine, do you think, such fantastical People upon the Earth, as Mankind is? is it possible we should have an Idea of so strange a Composition, a Creature of such foolish Passions, and such wise Reflections? So learned in Things of no Use, and so stupidly ignorant of what most concerns him; so much Concern for Liberty, and yet such great Inclinations to Servitude? So desirous of Happiness, and yet so very incapable of being so? The People in the Moon must be wise indeed to suppose all this of us. But do we not see our selves continually, and cannot so much as guess how we were made? So that we are forc'd to say the Gods, when they created us, were drunk with Nectar; and when they were sober again, could not chuse but laugh at their own Handy-work. Well, well, *said the Countess*, we are safe enough then; they in the Moon know nothing of us; but I could wish we were a little better acquainted with them; for it troubles me, that we should see the Moon above us, and yet not know what is done there. Why, *said I*, are you not as much concern-

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ed for that part of the Earth which is not yet discover'd? What Creatures inhabit it, and what they do there? for we and they are carried in the same Vessel; they possess the Prow, and we the Poop, and yet there is no Manner of Communication between us; they do not know at one End of the Ship, who lives, or what is done at the other End; and you would know what passeth in the Moon, which is another great Vessel, sailing in the Heavens at a vast Distance from us.

OH, *said she*; for the Earth, I reckon it all as good as discover'd, and can guess at the People, tho' I never heard a Word of 'em; for certainly they all resemble us very much, and we may know 'em better when we have a Mind to't: They will stay where they are, and 'tis no more but going to see 'em; but we cannot get into the Moon if we would; so that I despair of knowing what they do there. You would laugh at me, *said I*, if I should answer you seriously; perhaps, I may deserve it; and yet, I fancy, I can say a great deal to justify a ridiculous Thought that is just now come into my Head: Nay, to use the Fool's best Argument, I'll lay a Wager I make you own (in Spite of Reason) that one of these Days there may be a Communication between the Earth and the Moon: and who knows what great Advantages we may procure

cure by it? Do but consider *America*, before it was discover'd by *Columbus*, how profoundly ignorant were those People? They knew nothing at all of Arts and Sciences; They went naked, had no other Arms but a Bow and Arrows, and did not conceive they might be carried by Animals: They look'd upon the Sea as a wide Space, forbidden to Man; that it was join'd to the Heavens, and that beyond it was nothing. 'Tis true, after having spent whole Years in making hollow the Trunks of great Trees with sharp Stones, they put themselves to Sea in these Trunks, and floated from Land to Land, as the Wind and Waves drove them: But how often was their Trough overset, and they forc'd to recover it again by swimming? So that (except when they were on the Land) it might be said they were continually swimming; and yet had any one but told 'em of another Kind of Navigation, incomparably more perfect and useful than their Own; that they might easily pass over that infinite Space of Water; that they might stop in the Middle of the Waves, and, in some Sense, command the Winds, and make their Vessel go fast or slow, as they pleas'd; in short, that this unpassable Ocean should be no Obstacle to their conversing with another different People; do you think they would have believed you? And yet, at last, that Day is come;

come; the unheard-of and most surprising Sight appears, vast great Bodies, with white Wings, are seen to fly upon the Sea, to vomit Fire from all Parts, and to cast on their Shores an unknown People, all scaled with Iron, who dispose and govern Monsters as they please, carry Thunder in their Hands, and overthrow and destroy whoever resists them. From whence came they? Who brought them over the Sea? Who gave to them the Disposal of the Fire of Heaven? Are they Gods? Are they Sons of the Sun? for certainly they are not Men. Do but consider, Madam, the Surprize of the *Americans*; there can be nothing greater; and after, shall any one say there shall never be a Communication between the Moon and the Earth? Did the *Americans* believe there would ever be any between them and *Europe*, till it came to pass? 'Tis true, you must pass this great Space of Air and Heaven which is between the Earth and the Moon; but did not those vast Seas seem at first as impassable to the *Americans?* You rave, I think, *said she*; did you not own the *Americans* were so ignorant, that they had not the least Conception of crossing the Sea; but we who know a great deal more than they, can imagine and fancy the going thro' the Air, tho' we are assured it is not to be done. There is somewhat more than Fancy, *I reply'd*, when it hath been

been already practis'd, for several have found the Secret of fastening Wings, which bear them up in the Air, to move them as they please, and to fly over Rivers, and from Steeple to Steeple. I cannot say indeed they have yet made an Eagle's Flight, or that it doth not cost now and then a Leg or an Arm to one of these new Birds; but this may serve to represent the first Planks that were launch'd on the Water, and which were the very Beginning of Navigation. There were no Vessels then thought of to sail round the World; and yet you see what great Ships are grown by little and little from these first Planks. The Art of Flying is but newly invented? it will improve by degrees, and in time grow perfect, then we may fly as far as the Moon. We do not yet pretend to have discover'd all Things, or that what we have discover'd can receive no Addition; and therefore, pray let us agree there are yet many Things to be done in the Ages to come. Were you to live a thousand Ages, *said the Countess*, I can never believe you will fly, but you must endanger your Neck. I will not, *I reply'd*, be so unmannerly as to contradict a fair Lady; but tho' we cannot learn the Art here, I hope you will allow they may fly better in the Moon; 'tis no great matter whether we go to them, or they come to us;

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we ſhall then be the *Americans* who knew nothing of Navigation, and yet there were very good Ships at t'other end of the World. Were it ſo, *ſaid ſhe*, the People in the Moon would have been here before now. All in good Time, *ſaid I*; the *Europeans* were not in *America*, till at the End of ſome Thouſands of Years; they were ſo long in improving Navigation to the Point of croſſing the Ocean. The People in the Moon have already made ſome ſhort Voyages in the Air; they are exerciſing continually, and by degrees will be more expert; then we ſhall ſee 'em, and God knows how we ſhall be ſurpris'd. It is unſufferable, *ſaid ſhe*, you ſhould banter me at this Rate, and juſtify your ridiculous Fancy by ſuch falſe Reaſoning. I am going to demonſtrate, *ſaid I*, you reproach me very unjuſtly. Conſider, Madam, that the World is unfolded by degrees; for the Antients were very poſitive, that the Torrid and Frigid Zones were not inhabitable, by reaſon of their exceſſive Heat and Cold; and in the Time of the *Romans* the general Map of the World was but very little extended beyond that of their Empire; which, tho' in one Senſe, expreſs'd much Grandeur, in another Senſe, was a Sign of as great Ignorance; however, there were Men found both in very hot and in very cold Countries; ſo that you ſee the World

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is already encreas'd. After that it was thought that the Ocean cover'd the whole Earth, except what was then discover'd; there was no talk then of the Antipodes, not so much as a Thought of 'em; for who could fancy their Heels at top, and their Heads at bottom? and yet after all their fine Reasoning, the Antipodes were discover'd. Here's now another half of the World starts up, and a new Reformation of the Map: Methinks this, Madam, should restrain us, and teach us not to be so positive in our Opinions; the World will unfold it self more to us hereafter; then we shall know the People in the Moon as well as we do now the Antipodes. But all Things must be done in Order; the whole Earth must be first discover'd; and till we are perfectly acquainted with our own Habitation, we shall never know that of our Neighbours. Without fooling, *said the Countess*, you are so very profound in this Point, that I begin to think you are in Earnest, and believe what you say. Not so neither, *said I*; but I would shew you how easy it is to maintain a chimerical Notion, that may (like some Opinions in Religion) perplex a Man of Understanding, but never persuade him: there is nothing persuades but Truth, it hath no Need of all its Proofs, but enters naturally into our Understanding;

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and when once we have learn'd it, we do nothing but think of it. I thank you then, *said she*, for imposing on me no longer; for, I confess, your false reasoning disturb'd me, but now I shall sleep very quietly, if you think fit to go home.

The Third EVENING.

THE Countess was so intent upon her Notions, that she would fain have engag'd me next Day to go on where I left off; but I told her, since the Moon and Stars were become the Subject of our Discourse, we would trust our Chimera's with no Body else. At Night we went again into the Park, which was now dedicated to our learned Conversation.

Well, Madam, *said I*, I have great News for you; that which I told you last Night of the Moon's being inhabited, may not be so now. There is a new Fancy got into my Head, which puts those People in great danger. I cannot suffer it, *said she*; yesterday you were preparing me to receive a Visit from 'em, and now

there are no such People in Nature: Once you would have me believe the Moon was inhabited; I surmounted the Difficulty I had, and will now believe it. You are a little too nimble, *I reply'd*; did I not advise you never to be entirely convinc'd in Things of this Nature, but to reserve half of your Understanding free and disengag'd, that you may admit of the contrary Opinion, if there be any Occasion? I care not for your Sentences, *said she*, let us come to Matter of Fact. Are we not to consider the Moon as *Greenwich?* No, *said I*; the Moon doth not so much resemble the Earth, as *Greenwich* doth *London:* The Sun draws from the Earth and Water, Exhalations and Vapours, which mounting to a certain Height in the Air, do there assemble and form the Clouds; those uncertain Clouds are driven irregularly round the Globe, sometimes shadowing one Country, and sometimes another: He, then, who beholds the Earth from afar off, will see frequent Alterations upon its Surface, because a great Country, overcast with Clouds, will appear dark or light, as the Clouds stay, or pass over it; he will see the Spots on the Earth often change their Place, and appear or disappear as the Clouds remove: But we see none of those Changes wrought upon the Moon, which would certainly be the same, were there but

but Clouds about her; but, on the contrary, all her Spots are fix'd and certain, and her light Parts continue where they were at firſt, which truly is a great Misfortune; for by this reaſon, the Sun draws no Exhalations or Vapours above the Moon: So that it appears ſhe is a Body infinitely more hard and ſolid than the Earth, whoſe ſubtile Parts are eaſily ſeparated from the reſt, and mount upwards as ſoon as Heat puts them in motion; but it muſt be a Heap of Rock and Marble, where there is no Evaporation: Beſides, Exhalations are ſo natural and neceſſary where there is Water, that there can be no Water at all, where there is no Exhalation; and what ſort of Inhabitants muſt thoſe be, whoſe Country affords no Water, is all Rock, and produceth nothing? Very fine, *ſaid ſhe*; you have forgot ſince you aſſur'd me, we might from hence diſtinguiſh Seas in the Moon; nay, you or your Friends were Godfathers to ſome of 'em. Pray, what is become of your *Caſpian*-Sea, and your *Black-Lake?* All Conjecture, Madam, *I reply'd*; tho' for your Ladyſhip's ſake, I am very ſorry for it: For thoſe dark Places we took to be Seas, may, perhaps, be nothing but large Cavities; 'tis hard to gueſs aright at ſo great a diſtance. But will this ſuffice then, *ſaid ſhe*, to extir-

pate the People in the Moon? Not altogether, *I reply'd*; we will neither determine for, nor againſt them. I muſt own my Weakneſs (if it be one) *ſaid ſhe*; I cannot be ſo perfectly undetermin'd as you would have me to be; but muſt believe one way, or the other; therefore pray fix me quickly in my Opinion, as to the Inhabitants of the Moon: Preſerve or annihilate them, as you ſhall think fit; and yet, methinks, I have a ſtrange Inclination for 'em, and would not have 'em deſtroy'd, if it were poſſible to ſave 'em. You know, Madam, *ſaid I*, I can deny you nothing; the Moon ſhall be no longer a Deſart; but, to do you Service, we will re-people her. Since, to all appearance, the Spots in the Moon do not change, I cannot conceive there are any Clouds about her, that ſometimes obſcure one Part, and ſometimes another; yet this doth not hinder but that the Moon ſends forth Exhalations, and Vapours. Our Clouds, which we ſee in the Air, are nothing but Exhalations and Vapours, which at their coming out of the Earth, were ſeparated into ſuch minute Particles, that they could not be diſcern'd; but as they aſcend higher, they are condens'd by the Cold, and, by the Re-union of their Parts, are render'd viſible; after which they become great Clouds, which fluctu-

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ate in the Air, till they return back again in Rain: However, those Exhalations and Vapours do sometimes keep themselves so dispers'd, that they are imperceptible; or if they do assemble, it is in forming such subtle Dews, that they cannot be discern'd to fall from any Cloud. It may likewise happen, that the Vapours which go out of the Moon (for it is incredible that the Moon is such a Mass, that all its Parts are of an equal Solidity, all at rest with one another, and all incapable of any Alteration from the Efficacy of the Sun; I am sure we are yet unacquainted with such a Body: Marble it self is of another Nature; and even that which is most solid, is subject to Change and Alteration; either from the secret and invisible Motion it hath within it self, or from that which it receives from without) it may so happen then, that the Vapours which issue from the Moon, may not assemble round her in Clouds, and may not fall back again in Rain, but only in Dews. It is sufficient for this, that the Air with which the Moon is inviron'd, (for it is certain that the Moon is encompass'd with Air as well as the Earth) be a little different from our Air, and the Vapours of the Moon a little different from those of the Earth, which is very probable. Hereupon, the matter being

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otherwise dispos'd in the Moon than on the Earth, the Effects must be different; tho' it is of no great consequence whether they are or no: For from the moment we have found an inward motion in the Parts of the Moon, or produced by foreign Causes, here is enough for the new Birth of its Inhabitants, and a sufficient and necessary Fund for their Subsistence. This will furnish us with Corn, Fruit, Water, according to the custom or manner of the Moon, which I do not pretend to know; and all proportion'd to the Wants and Use of the Inhabitants, with whom I pretend to be as little acquainted. That is to say, *reply'd the Countess*, You know all this very well, without knowing how it is so, which is a great deal of Ignorance upon a very little Knowledge: However, I comfort myself, that you have given the Moon her Inhabitants again, and have wrapp'd her in an Air of her own, without which a Planet would seem but very naked.

'Tis these two different Airs, *said I*, that hinder the Communication of the two Planets: If it was only flying, as I told you Yesterday, who knows but we may improve it to Perfection, tho' I confess there is but little Hopes of it? The great Distance between the Moon and the Earth, is a Difficulty not easily to be surmounted: Yet were

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the Distance but inconsiderable, and the two Planets almost contiguous, it would be still impossible to pass from the Air of the one into the Air of the other. The Water is the Air of Fishes, they never pass into the Air of the Birds, nor the Birds into the Air of the Fish; and yet 'tis not the Distance that hinders them, but both are imprison'd by the Air they breathe in. We find our Air consists of thicker and grosser Vapours than the Air of the Moon; so that one of her Inhabitants arriving at the Confines of our World, as soon as he enters our Air, will inevitably drown himself, and we shall see him fall dead on the Earth.

I should rejoice at a Wreck, *said the Countess*, as much as my Neighbours on the Coast of *Sussex*: How pleasant would it be to see 'em lie scattered on the Ground, where we might consider at our ease their extraordinary Figures? But what, *said I*, if they should swim on the outward Surface of our Air, and be as curious to see us, as you are to see them; should they angle or cast a Net for us, as for so many Fish, would that please you? Why not, *said the Countess?* For my part I would go into their Nets of my own accord, were it but for the pleasure to see such strange Fishermen.

You would be very sick, *said I*, when you were drawn to the top of our Air; for it is not respirable in all its extent, as may be

seen

ſeen on the tops of ſome very high Mountains: And I admire that they who have the Folly to believe that our *Fairies*, whom they allow to be Corporeal, and to inhabit the moſt pure and refin'd Air, do not tell us, that the Reaſon why they give us ſuch ſhort and ſeldom Viſits, is, that there are very few among them that can dive; and thoſe that can, if it be poſſible to get through the thick Air where we are, cannot ſtay half ſo long in it, as one of the worſt of Sir *Harry Blunt*'s Sponge-gatherers. Here then are natural Barricades, which defend the Paſſage out of our World, as well as the Entry into that of the Moon: So that ſince we can only gueſs at that World, let us fancy all we can of it. For example, I will ſuppoſe that we may ſee there the Firmament, the Sun, and the Stars, of another colour than what they are here; all theſe appear to us through a kind of natural Spectacles, which change and alter the Objects. Theſe Spectacles are our Air, mix'd as it is with Vapours and Exhalations, and which doth not extend itſelf very high. Some of our modern Philoſophers pretend, of itſelf it is blue, as well as the Water of the Sea, and that this Colour neither appears in the one nor in the other, but at a great depth: The Firmament, ſay they, where the fix'd Stars are faſtned, hath no peculiar Light of its own, and by conſequence

quence muſt appear black; but we ſee it through the Air which is blue, and therefore to us it appears blue; which if ſo, the Beams of the Sun and Stars cannot paſs thro' the Air without being ting'd a little with its Colour, and loſing as much of their own: Yet were the Air of no Colour, it is very certain, that thro' a great Miſt, the Light of a Flambeaux at ſome diſtance appears reddiſh, tho' it be not its true natural Colour. Our Air is nothing but a great Miſt, which changeth the true Colour of the Sky, of the Sun, and of the Stars; it belongs only to the celeſtial Matter to bring us the Light and Colours, as they really are in all their purity: So that ſince the Air of the Moon is of another nature than our Air, or is ſtain'd of another Colour, or at leaſt is another kind of Miſt, which cauſeth other alterations to the Colours of the Celeſtial Bodies; in ſhort, as to the People of the Moon, their Spectacles thro' which they ſee every thing, are chang'd.

IF it be ſo, *ſaid the Counteſs*, I prefer my Abode before that of the Moon; for I cannot believe the Celeſtial Colours are ſo well ſuited as they are here; for if you will let us put green Stars on a red Sky, they cannot be ſo agreeable as Stars of Gold on an Azure Firmament. To hear you, *ſaid I*, one would think you was chuſing a Petticoat, or a Suit of Knots:

But believe me, Nature hath as good a Fancy as Mrs. *Harrison*; leave it to her to chuse Colours for the Moon, and I'll engage they shall be well sorted; she will not fail to vary the Prospect of the Universe, at every different point of Sight, and always the alteration shall be very agreeable. I know very well, *said the Countess*, her Skill in this Point; she is not at the charge of changing the Objects, but only the Spectacles, and hath the credit of this great Variety, without being at any Expence: With a blue Air she gives us a blue Firmament; and perhaps with a red Air, she gives to the Inhabitants of the Moon a red Firmament; and yet still it is but the same Firmament: Nay I am of Opinion, she hath plac'd a sort of Spectacles in our Imagination, thro' which we see all things, and which to every particular Man, change the Objects. *Alexander* look'd on the Earth as a fit place to establish a great Empire; it seem'd to *Celadon* a proper Residence for *Astræa*, and it appear'd to a Philosopher, a great Planet in the Heavens, cover'd with Fools. I do not believe the Sights vary more between the Earth and the Moon, than they do between one Man's Fancy and another's.

This change in our Imaginations, *said I*, is very surprizing; for they are still the same Objects tho' they appear different; when in

in the Moon we may ſee other Objects we do not ſee here, or at leaſt, not ſee all there we do ſee here. Perhaps in that Country they know nothing of the Dawn and the Twilight, before the Sun riſeth, and after the Sun ſets: The Air which encompaſſeth, and is elevated above us, receives the Rays, ſo that they cannot ſtrike on the Earth; and being groſs, ſtops ſome of them, and ſends 'em to us, tho' indeed they were never naturally deſign'd us: So that the Day-break and the Twilight are a Favour which Nature beſtows on us; they are a Light which regularly we ſhould not have, and which ſhe gives us over and above our due. But in the Moon, where apparently the Air is more pure, and therefore not ſo proper to ſend down the Beams it receives from the Sun before his Riſing, and after his Setting, you have not that Light of Grace (as I may call it) which growing greater by degrees, doth more agreeably prepare you for the Arrival of the Sun; and which growing weaker, and diminiſhing by degrees, doth inſenſibly prepare you for the Sun's Departure: But you are in a profound Darkneſs, where a Curtain, as it were, is drawn all on a ſudden, your Eyes are immediately dazled with the whole Light of the Sun, in all its Glory and Brightneſs; ſo likewiſe, you are on a ſudden ſurpriz'd with utter Darkneſs; the

Night and the Day have no Medium between them, but you fall in a Moment from one Extreme into another. The Rainbow likewiſe is not known to them in the Moon; for if the Dawn is an Effect of the Groſſneſs of the Air and Vapours, the Rainbow is form'd in the Clouds from whence the Rain falls: ſo that the moſt beautiful Things in the World, are produced by thoſe which have no Beauty at all. Since then there are no Vapours thick enough, nor no Clouds of Rain about the Moon, farewel Dawn, adieu Rainbow: What muſt Lovers do for Similes in that Country, when ſuch an inexhauſtible Magazine of Compariſons is taken from them?

I doubt not, *ſaid the Counteſs*, but there are thoſe in the Moon as good at Simily, as the greateſt Beau in *Covent-Garden*; and had they neither Sun nor Stars, Pearls nor Rubies, Roſes nor Lillies, yet could ſay as many fine things to a Vizor-Mask, as the perteſt Wit at the Puppet-Show; and they are well enough recompens'd for the Loſs of our Dawn and Rainbow; for by the ſame Reaſon, they have neither Thunder nor Lightning, both which are form'd in the Clouds: How glorious are their Days, the Sun continually ſhining? How pleaſant their Nights, not the leaſt Star is hid from them? They never hear of Storms

or

or Tempeſts, which certainly are an Effect of the Wrath of Heaven. Do you think then they ſtand in need of our Pity? You are deſcribing the Moon, *I reply'd*, like an enchanted Palace; but do you think it ſo pleaſant to have a ſcorching Sun always over our Head, and not the leaſt Cloud to moderate its Heat? Tho' I fancy 'tis for this Reaſon that Nature hath made great Cavities in the Moon; we can diſcern them eaſily with our Teleſcopes, for they are not Mountains, but ſo many Wells or Vaults in the middle of a Plain; and what do we know but the Inhabitants of the Moon being continually broil'd by the exceſſive Heat of the Sun, do retire into thoſe great Wells? perhaps they live no where elſe, and 'tis there they build 'em Cities; for we ſtill ſee in the Ruins of old *Rome*, that that Part of the City which was under Ground, was almoſt as large as that which was above Ground. I fancy, during the late Siege of *Buda*, they lived there as they do in the Moon; or 'tis but going to the *Fountain-Tavern* Cellar, where the ſeveral Vaults are as ſo many high Streets; the Vats, Pipes, Hogſheads, ſo many different Edifices; and the Drawers and Coopers, like ſo many *Troglodites*. I perceive you laugh at me; yet if I may be ſo free with a fair Lady, you deſerve it much better than I: for

you believe the People in the Moon must live upon the Surface of their Planet, because we do so upon ours; but quite contrary, since we dwell upon the Superficies of our Planet, they should not dwell upon the Superficies of their Planet: If Things differ so much in this World, what must they do in another?

'Tis no Matter, *said the Countess*, I can never suffer the Inhabitants of the Moon to live in perpetual Darkness. You will be more concern'd for them, *I reply'd*, when I tell you that one of the antient Philosophers did long since discover the Moon to be the Abode of the blessed Souls departed out of this Life, and that all their Happiness consisted in hearing the Harmony of the Spheres; that is, the Musick (I had like to have said Noise) which is made by the motion of the Celestial Bodies: If you have seen a *Raree-Show*, you will easily comprehend it. But because the Philosopher pretends to know exactly all they do there, he tells you, that when the Moon is obscur'd by the Shadow of the Earth, they no longer hear the heavenly Musick, but howl like so many Souls in Purgatory; so that the Moon taking pity of them, makes all the haste she can to get into the Light again. Methinks then, *says she*, we should now and then see some of the blessed Souls arrive

rive here from the Moon; for certainly they are sent to us. I confess indeed, *said I*, it would be very pleasant to see different Worlds; such a Voyage, though but in Imagination, is very delightful; what would it be in Effect? It would be much better certainly than to go to *Japan*, which, at best, is but crawling from one End of the World to t'other, and after all to see nothing but Men. Well then, *says she*, let us travel over the Planets as fast as we can; what should hinder us? Let us place our selves at all the different Prospects, and from thence consider the Universe. But, first, have we any thing more to see in the Moon? I believe not, *I reply'd*; at least, you have seen all I can shew you. Coming out of the Moon, towards the Sun, we see *Venus*, which puts me again in mind of *Greenwich*. *Venus* turns upon her self, and round the Sun, as well as the Moon; they likewise discover by their Telescopes, that *Venus*, like the Moon, (if I may speak after the same manner) is sometimes new, sometimes full, and sometimes in the Wain, according to the divers Situations she is in, in respect of the Earth.

THE Moon, to all Appearance, is inhabited; why should not *Venus* be so too? You are so full of your Why's and your Wherefore's, *said she*, interrupting me,

that I fancy you are ſending Colonies to all the Planets. You may be certain, ſo I will, *I reply'd*; for I ſee no Reaſon to the Contrary: We find that all the Planets are of the ſame Nature, all obſcure Bodies, which receive no Light but from the Sun, and then ſend it to one another; their Motions are the ſame, ſo that hitherto they are alike; and yet, if we are to believe that theſe vaſt Bodies are not inhabited, I think they were made but to little Purpoſe; why ſhould Nature be ſo partial, as to except only the Earth? But let who will ſay to the contrary, I muſt believe the Planets are peopled as well as the Earth. I find, *ſays the Counteſs*, with ſome Concern, a Philoſopher will never make a good Martyr, you can ſo quickly ſhift your Opinion; 'twas not many Minutes ſince the Moon was a perfect Deſart; now the reſt of the Planets are inhabited. Why truly, Madam, *ſaid I*, there is a Time for all Things; and your true Philoſopher believes any thing or nothing, as the Maggot bites. Had you taken me in the ſceptical Vein, I would have as ſoon granted a Nation in a Muſtard-Ball, as a living Creature in the Moon; but the Tide is turn'd, and all the Planets are peopled like an Ant-hill; yet, Raillery apart, this is not ſo very improbable as you think it; for do you believe we diſ-

cover

cover (as I may say) all the Inhabitants of the Earth? There be as many kinds of invisible as visible Creatures. We see from the Elephant to the very Hand-worm, beyond which our Sight fails us; and yet, counting from that minute Creature, there are an Infinity of lesser Animals, which were they perceptible, would be as little in Comparison with a Mite, as a Mite is of an Ox. How lately have our Virtuoso's found out the Pepper-Worms, which, in the least Drop of Water, appear like so many Dolphins, sporting in the Ocean! nay, they tell you that the Sharpness of Vinegar consists in the Fierceness of the little Animals that bite you by the Tongue; not to name the Blue on Plumbs, and twenty Experiments of the like Nature.

NAY, to shew you that they can see as far into a Millstone as *Descartes* himself, they have discover'd that several, even of the most solid Bodies, are nothing but an immense Swarm of imperceptible Animals. Do but consider this little Leaf; why, it is a great World of a vast Extent; what Mountains, what Abysses are there in it? The Insects of one side know no more of their Fellow-Creatures on t'other side, than you and I tell what they are now doing at the Antipodes; is it not reason then that a great Planet should be inhabited? In the hardest Stones, for Example, in Marble there

there are an Infinity of Worms, which fill up the Vacuums, and feed upon the Subſtance of the Stone. Fancy then Millions of living Creatures to ſubſiſt many Years on a Grain of Sand; ſo that were the Moon but one continued Rock, ſhe ſhould be gnaw'd by theſe inviſible Mites (as if ſhe were a green Cheeſe) rather than not be inhabited. In ſhort, every Thing is animated, and the Stones upon *Salisbury-Plain* are as much alive as a Hive of Bees. Imagine then thoſe Animals which are yet undiſcovered, and add them and thoſe which are but lately diſcover'd, to thoſe we have always ſeen, you will find the Earth ſwarms with Inhabitants. Why then ſhould Nature, which is fruitful to an Exceſs here, be ſo very barren in the reſt of the Planets? I muſt own, *ſaid the Counteſs*, you have convinc'd my Reaſon, but you have confounded my Fancy with ſuch Variety, that I cannot imagine how Nature, which hates Repetitions, ſhould produce ſo many different Kinds. There is no need of Fancy, *reply'd I*; do but truſt your Eyes, and you will eaſily perceive how Nature diverſifies in theſe ſeveral Worlds.

ALL human Faces in general are of the ſame Model, and yet the *Europeans* and the *Africans* have two particular Molds; nay, commonly every Family have a different

rent Form. What Secret then has Nature to ſhew ſo much Variety in a ſingle Face? Our World, in reſpect of the Univerſe, is but a little Family; all whoſe Faces have ſome Reſemblance; in another place there is another Family, whoſe Faces have a different Air and Faſhion. The Difference too increaſeth with the Diſtance; for whoſoever ſhould ſee an Inhabitant of the Moon, and an Inhabitant of the Earth, would ſoon perceive they were nearer Neighbours than one of the Earth, and one of *Saturn:* Here, for Example, we have the Uſe of Voice; in another World they ſpeak by Signs; and, at a greater Diſtance, they do not ſpeak at all. Here our Reaſon is form'd by Experience; in the next World, Experience contributes little towards it; and in the next to that, old Men know no more than Children. Here we are troubled more with what is to come, than with what is paſt; further off they are not concern'd with either, which, by the way, I think, is much the better. Here 'tis thought we want a ſixth Senſe, which would teach us many Things of which we are now ignorant; this ſixth Senſe is apparently in another World, where they want one of the five which we enjoy. Nay, perhaps there is a much greater Number of Senſes; but in the Parti-

Partition we have made of 'em with the Inhabitants of the other Planets, there are but five fallen to our Share, with which we are well contented, for want of being acquainted with the reſt. Our Sciences have Bounds, which the Wit of Man could never paſs; there is a Point where they fail us on a Sudden, the reſt is reſerv'd for other Worlds, where ſomewhat which we know, is unknown to them. This Planet enjoys the Pleaſures of Love, but lies deſolate in ſeveral Places by the Fury of War; in another Planet they enjoy a perpetual Peace, yet in the midſt of that Peace, know nothing of Love, and Time lies on their Hands. In a Word, that which Nature practiſes here in little, in diſtributing her Gifts among Mankind, ſhe does at large in other Worlds, where ſhe makes uſe of that admirable Secret ſhe hath to diverſify all Things, and at the ſame time makes 'em equal, by compenſating for the Inequality. This, I confeſs, is on the Borders of Nonſenſe; but a Man is never the leſs a Philoſopher for being a little obſcure, if not unintelligible.

BUT is it not time, Madam, to be ſerious; how will you diſpoſe of all theſe Notions? Trouble not your ſelf, *ſays ſhe*, Fancy is a great Traveller: I already comprehend

prehend these several Worlds, and repre-represent to my self their different Characters and Customs: Some of 'em, I assure you, are very extraordinary. I see at this moment a thousand different Figures, tho' I cannot well describe 'em. Oh, leave them, *I reply'd*, to your Dreams: They will represent them very faithfully.

The Fourth EVENING.

I Have been told of a Physician that makes his Patients dream as he pleases, by prescribing such a Specifick for their Supper, as works those Impressions he would have on the Fancy; of what Use he may be to the modern Poets, I leave to the Curious, and return to the Countess, who either did not dream at all, or nothing to the Purpose; so that continuing our Voyage to the other World, we would only guess at their Inhabitants. We were come to *Venus*; and I told her, that *Venus* certainly turn'd on it self, tho' Nobody could tell in what time; and consequently were ignorant how long her Day lasted; but her Year was compos'd of eight Months,

Months, becauſe 'tis in that time ſhe turns round the Sun. And ſeeing *Venus* is forty times leſs than the Earth, the Earth appears to them in *Venus* to be a Planet, forty times bigger than *Venus* appears to us on the Earth; and, as the Moon is forty times leſſer than the Earth, ſo ſhe ſeems to be juſt of the ſame Magnitude, to the Inhabitants of *Venus*, as here *Venus* ſeems to us.

I ſee then, *ſays the Counteſs*, that the Earth is not to *Venus*, what *Venus* is to the Earth: I mean, that the Earth is too big to be the Mother of Love, or the Shepherd's Star to *Venus*; but the Moon which appears to *Venus* of the ſame Bigneſs that *Venus* appears to us, is aſſigned to be the Mother of Love, and Shepherd's Star to *Venus*, for ſuch Names are only proper for a little airy brisk Planet, bright and ſhiningas the Goddeſs her ſelf. Oh, bleſſed Moon, how happy art thou to preſide over the Amours of thoſe gallant People, where all, they ſay, is ſoft and moving, and perfectly refin'd from the Droſs of our Wits, who are fitter for a Bear-Garden than a *Circle?* How groſs is their Courtſhip? how mean their Raillery, without any Diſtinction of Time, Place, or Perſon? They make Love (as they call it) but one way, and the Form is the ſame at a Farce or Funeral. Be not ſo very ſevere,

vere, *I reply'd*; if some of our *Beaux* speak plain *English*, some of your *Belles* like them never the worse for it. The Art of Love is as much improv'd as the Art of War: The Generals of this Age take a Town in two Days, which in the last held out as many Years; and the Roses, Lillies, Pearls, and Rubies (a whining Lover's Train of Artillery) are grown as useless as Bows and Arrows. Tho', after all, I must own they have another Standard in the Planet *Venus*; there *Clelia* and *Partheniſſa* is below the Language of Grooms and Chamber-maids, and every Porter and Carman a perfect Sir *Courtly:* But then consider the Difference of Climates; *Venus* is much nearer than the Earth is to the Sun, from whence she receives a more vigorous and active Influence.

I find, *says the Countess*, it is easy enough to guess at the Inhabitants of *Venus*; they resemble what I have read of the *Moors* of *Granada*, who were a little, black People, scorched with the Sun, witty, full of Fire, very amorous, much inclin'd to Musick and Poetry, and ever inventing Masques and Tournaments in honour of their Mistresses. Pardon me, Madam, *said I*; you are little acquainted with the Planet. *Granada*, in all its Glory, was a perfect *Greenland* to it; and your gallant

Moors,

Moors, in compariſon with that People, were as ſtupid as ſo many *Laplanders*.

But what do you think then of the Inhabitants of *Mercury?* They are yet nearer to the Sun, and are ſo full of Fire, that they are abſolutely mad; I fancy they have no Memory at all, like moſt of the Negroes; that they make no Reflexions, and what they do is by ſudden Starts, and perfect Hap-hazard. In ſhort, *Mercury* is the Bedlam of the Univerſe: The Sun appears to them much greater than it does to us, becauſe they are much nearer to it than we: It ſends them ſo vaſt and ſtrong a Light, that the moſt glorious Day here would be no more with them than a declining Twilight. I know not if they can diſtinguiſh Objects; but the Heat to which they are accuſtom'd, is ſo exceſſive, that they would be ſtarv'd with Cold in the Torrid Zone. Their Year is but three Months; but we know not the exact Length of their Day, becauſe *Mercury* is ſo little, and ſo near the Sun: It is (as it were) loſt in his Rays, and is very hardly diſcover'd by the Aſtronomers; ſo that they cannot obſerve how it moves on its Centre; but becauſe it is ſo little, fancy it compleats its Motion in a little time: So that by conſequence the Day there is very ſhort, and the Sun appears to them like a vaſt fiery Furnace

at

at a little distance, whose Motion is prodigiously swift and rapid; and during their Night, *Venus* and the Earth (which must appear considerably big) give light to them. As for the other Planets which are beyond the Earth, towards the Firmament, they appear less to them in *Mercury*, than they do to us here, and they receive but little Light from them, perhaps none at all: The fix'd Stars likewise seem less to them, and some of 'em totally disappear, which, were I there, I should esteem a very great loss.

WHAT signifies the loss of a few fix'd Stars, *says the Countess?* I pity them for the excessive Heat they endure: Let us give them some Relief, and send *Mercury* a few of the refreshing Showers they have sometimes four Months together in the hottest Countries, during their greatest Extremity. Your Fancy is good, Madam, *I reply'd*; but we will relieve them another way. In *China* there are Countries which are extremely hot by their Situation; yet in *July* and *August* are so cold, that the Rivers are frozen: The Reason is, they are full of Salt-Petre, which being exhal'd in great abundance by the excessive Heat of the Sun, makes a perfect Winter at Midsummer. We will fill the little Planets with Salt-Petre, and let the Sun shine as hot as he pleases.

And, after all, who knows but the Inhabitants of *Mercury* may have no occasion either for Rain or Salt-Petre? If it is a certain Truth, that Nature never gives life to any Creature, but where that Creature may live; then thro' Custom and Ignorance of a better Life, those People may live happily.

After *Mercury* comes the Sun; but there is no Possibility of peopling it, nor no room left for a Wherefore. By the Earth which is inhabited, we judge that other Bodies of the same Nature may be likewise inhabited: But the Sun is a Body not like the Earth, or any of the Planets; the Sun is the Source or Fountain of Light; which, tho' it is sent from one Planet to another, and receives several Alterations by the way, yet all originally proceeds from the Sun: He draws from himself that precious Substance which he emits from all sides, and which reflects, when it meets with a solid Body, and spreads from one Planet to another those long and vast Trains of Light, which cross, strike thro', and intermingle in a thousand different Fashions, and make (if I may so say) the richest Tissues in the World. The Sun likewise is placed in the Centre, from whence, with most Convenience, he may equally distribute, and animate by his Heat. It is then a par-

particular Body; but what ſort of Body, has often puzzled better heads than mine. It was thought formerly a Body of pure Fire; and that Opinion paſſed current till the beginning of this Age; when they perceiv'd ſeveral Spots on its Surface. A little after they had diſcover'd new Planets, (of which hereafter) which ſome ſaid were thoſe Spots; for thoſe Planets moving round the Sun, when they turn'd their dark half to us, muſt neceſſarily hide part of it: And had not the Learned, with thoſe pretended Planets, made their court before to moſt of the Princes in *Europe*, giving the Name of this Prince to one, and of that Prince to another Planet, I believe they would have quarrell'd who ſhould be Maſter of thoſe Spots, that they might have nam'd them as they pleas'd.

'T WAS but t'other day, *ſays the Counteſs*, you were deſcribing the Moon, and call'd ſeveral Places by the Names of the moſt famous Aſtronomers. I was pleas'd with the Fancy: For ſince the Princes have ſeiz'd on the Earth, 'tis fit the Philoſophers (who are as proud as the beſt of 'em) ſhould reſerve the Heavens for themſelves without any Competitors. Oh! trouble not your ſelf, *ſaid I*, the Philoſophers make the beſt advantage of their Territories; and if they part with the

leaſt Star, 'tis on very good Terms: Let me tell you, an Acre of Land in *England* is worth ten thouſand in the Moon; but the Spots on the Sun are fallen to nothing; the Actions of *Penſylvania* are not half ſo low. 'Tis now diſcover'd that they are not Planets, but Clouds, Streams or Droſs, which riſe upon the Sun, ſometimes in great quantity, ſometimes in leſs; ſometimes they are dark, ſometimes clear; ſometimes they continue a great while, and ſometimes they diſappear as long. It ſeems the Sun is a liquid Matter; ſome think of melted Gold, which boils over, as it were, continually, and by the Force of its Motion calls the Scum or Droſs on its Surface, where it is conſum'd, and others ariſe. Imagine then what ſtrange Bodies theſe are, when ſome of them are as big as the Earth; what a vaſt quantity muſt there be of this melted Gold, and what muſt be the Extent of this great Sea of Light and Fire which they call the Sun? Others ſay, the Sun appears through their Teleſcopes, which are the Aſtronomers Spectacles, full of Mountains which vomit Fire continually, and are joined together like Millions of *Etna's*. Yet there are thoſe that ſay thoſe burning Mountains are pure Viſion, caus'd by a fault in the Spectacles; but what ſhall we truſt, if we muſt diſtruſt our Teleſcopes,

ſcopes, to which we owe the knowledge of ſo many new Objects? But let the Sun be what it will, it cannot be at all proper for Habitation; and what pity 'tis not; for how pleaſant would it be? You might then be at the Centre of the Univerſe, where you would ſee all the Planets turn regularly about you; but now we know nothing but extravagant Fancies, becauſe we do not ſtand in the proper place. There is but one Place in the World, where the Study or Knowledge of the Stars is eaſily obtain'd, and what pity 'tis there is no body there? You forget your ſelf ſure, *ſays ſhe*; were you in the Sun you would ſee nothing, neither Planets nor fix'd Stars: Doth not the Sun efface all? So that could there be any Inhabitants there, they might juſtly think themſelves the only People in Nature.

I own, *ſaid I*, my Miſtake: I was thinking of the Situation of the Sun, and not of the effect of its Light: I thank you for your Correction; but muſt take the boldneſs to tell you, that you are in an Error as well as my ſelf: For, were there Inhabitants in the Sun, they would not ſee at all; either they could not bear the Strength of its Light, or for want of a due diſtance they could not receive it; ſo that, things well conſider'd, all the

the People there must be stark blind, which is another Reason why the Sun cannot be inhabited. But let us pursue our Voyage. We are now arriv'd at the Centre, which is always the Bottom or lowest Place of what is round: If we go on, we must ascend; we shall find *Mercury*, *Venus*, the Earth, the Moon, all the Planets we have already visited; the next is *Mars*: *Mars* hath nothing curious that I know of; his Day is not quite an Hour longer than ours, but his Year is twice as much as our Year: He is a little less than the Earth; and the Sun seems not altogether so large and so bright to him, as it appears to us. But let us leave *Mars*; he is not worth our stay. But what a pretty thing is *Jupiter*, with his four Moons, or Yeomen of the Guard! they are four little Planets that turn round him, as our Moon turns round us. But why, *says she*, interrupting me, must there be Planets to turn round other Planets, that are no better than themselves? I should think it would be more regular and uniform, that all the Planets, little and great, without any distinction, should have one and the same Motion round the Sun.

Ah, Madam, *said I*, if you knew what were *Descartes*'s Whirlpools or Vortexes (whose Name is terrible; but their Idea pleasant)

pleaſant) you would not talk as you do. Muſt my Head (*ſays ſhe*, ſmiling) turn round to comprehend them, or muſt I become a perfect Fool to underſtand the Myſteries of Philoſophy? Well; let the World ſay what it will, go on with your Whirlpools. I will, *ſaid I*; and you ſhall ſee the Whirlpools are worthy of thoſe Tranſports. That then, which we call a Whirlpool or Vortex, is a Maſs of Matter, whoſe Parts are ſeparated or detach'd one from another, yet have all one uniform Motion; and at the ſame time every one is allow'd, or has a particular Motion of its own, provided it follows the general Motion. Thus, a Vortex of Wind, or Whirlwind, is an Infinity of little Particles of Air, which turn round all together, and involve whatever they meet with. You know the Planets are borne up by the Celeſtial Matter, which is prodigiouſly ſubtile and active; ſo that this great Maſs, or Ocean of Celeſtial Matter, which flows as far as from the Sun to the fix'd Stars, turns round, and bears the Planets along with it, making them all turn after the ſame manner round the Sun, who poſſeſſes the Centre, but in a longer or a ſhorter time, according as they are farther or nearer in diſtance to it. There is nothing, to the very Sun, which does not turn; but he turns on him-

himself, because he is just in the middle of this Celestial Matter: And you must know, by the way, that were the Earth in his Place, it must turn on it self, as the Sun does. This is the great Vortex, of which the Sun is Lord; yet at the same time, the Planets make little particular Vortexes, in imitation of that of the Sun; each of them in turning round the Sun, doth at the same time turn round it self, and makes a certain Quantity of Celestial Matter turn round it likewise, which is always prepar'd to follow the Motion the Planet gives it, provided it is not diverted from its general Motion; this then is the particular Vortex of the Planet, which pushes it as far as the Strength of its Motion reaches; and if by Chance, a lesser Planet falls into the Vortex of a greater Planet, it is immediately borne away by the greater, and is indispensably forc'd to turn round it, tho' at the same time the great Planet, the little Planet, and the Vortex which encloses 'em, all turn round the Sun. 'Twas thus at the Beginning of the World, when we made the Moon follow us, because she was within the Reach of our Vortex, and therefore wholly at our dispose. *Jupiter* was stronger, or more fortunate than we; he had four little Planets in his Neighbourhood, and he brought 'em all four

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under his Subjection; and no doubt we, tho' a principal Planet, had had the same Fate, had we been within the Sphere of his Activity: He is ninety times bigger than the Earth, and would certainly have swallow'd us into his Vortex; we had then been no more than a Moon in his Family, when now we have one to wait on us; so that, you see, the advantage of Situation decides often all our good Fortune.

BUT pray, *says she*, who can assure us we shall continue as we do now? If we should be such Fools as to go near *Jupiter*, or he so ambitious to approach us, what will become of us? For if (as you say) the Celestial Matter is continually under this great Motion, it must needs agitate the Planets irregularly; sometimes drive 'em together, and sometimes separate them. Luck is all, *said I*; we may win as well as lose; and who knows but we should bring *Mercury* and *Venus* under our Government? they are little Planets, and cannot resist us. But in this Particular, Madam, we need not hope or fear; the Planets keep within their own Bounds, and are oblig'd (as formerly the Kings of *China* were) not to undertake new Conquests. Have you not seen when you put Water and Oil together, the Oil swims a-top? and if to these two Liquors you add a very light Liquor, the Oil bears it up,

and it will not sink to the Water; but put an heavier Liquor, of a just Weight, and it will pass thro' the Oil, which is too weak to sustain it, and sink 'till it comes to the Water, which is strong enough to bear it up: So that in this Liquor, compos'd of two Liquors, which do not mingle, two Bodies of an unequal Weight will naturally assume two different Places; the one will never ascend, the other will never descend. Fancy then that the Celestial Matter which fills this great Vortex, hath several resting-places, one by another, whose Weight are different, like that of Oil, Water and other Liquors; the Planets too are of a different Weight, and consequently every Planet settles in that Place which has a just Strength to sustain and keep it equilibrate: So you see 'tis impossible it should ever go beyond.

WOULD to God, *says the Countess*, our World were as well regulated and every one among us knew their proper Place. I am now in no fear of being over-run by *Jupiter*; and since he lets us alone in our Vortex, with our Moon, I do not envy him the four which he hath. Did you envy him, *I reply'd*, you would do him wrong, for he has no more than what he has Occasion for; at the Distance he is from the Sun, his Moons receive and send him but a very weak Light: It is true, that

that as he turns upon himself in ten Hours, his Nights by Consequence, are but five Hours long; so one would think there is no great Occasion for four Moons: But there are other Things to be considered. Here under the Poles, they have six Months Day, and six Months Night, because the Poles are the two Extremities of the Earth, the farthest remov'd from those Places where the Sun is over 'em in a perpendicular Line. The Moon seems to keep almost the same Course as the Sun; and if the Inhabitants of the Pole see the Sun, during one half of his Course of a Year, and during the other half, do not see him at all; they see the Moon likewise during one Half of her Course of a Month, that is, she appears to 'em fifteen Days; but they do not see her during the other half. *Jupiter*'s Year is as much as twelve of ours, so that there must be two opposite Extremities in that Planet, where their Night and their Day are six Years each. A Night six Years long, is a little disconsolate, and 'tis for that reason, I suppose, they have four Moons; that which (in regard to *Jupiter*) is uppermost, finisheth its course about him in seventeen Days, the second in seven, the third three Days and an half, and the fourth in two and forty Hours: And though they are so unfortunate as to have six Years Night, yet their

course being exactly divided into halves, they never pass above one and twenty Hours, wherein they do not see at least the last Moon, which is a great Comfort in so tedious a Darkness: So that be where you will, these four Moons are sometimes the prettiest sight imaginable; sometimes they rise all four together, and then separate according to the Inequality of their Course; sometimes they are all in their Meridian, rang'd one above another; sometimes you see them at equal distances on the Horizon; sometimes when two rise, the other two go down. Oh! how I should love to see this pleasant sport of Eclipses! for there is not a Day passes, but they eclipse the Sun, or one another; and they are so accustom'd to this Diversion in *Jupiter*, that the late Duke of *B*-------*m* in his *Rehearsal*, brought the Dance of Eclipses from that Planet, as now most of our modish Dances come out of *France*.

WELL, *says the Countess*, I hope you will people these four Moons, tho' you say they are but little secondary Planets, appointed to give light to another Planet during its Night. Do not doubt it, *I reply'd*; these Planets are not a jot the worse to be inhabited, for being forc'd to turn round another Planet of greater consequence. I would have then, *says she*,

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the People of those four Moons, to be so many Colonies under *Jupiter*'s Government; they should receive their Laws and Customs from him. Would it not be convenient too, *said I*, that they should send Deputies with Addresses to him? for he hath certainly a more absolute Command over his Moon, than we have over ours; tho' his Power, after all, is but imaginary, and consists chiefly in making them afraid: For that Moon which is nearest to him, sees that he is three hundred and sixty times bigger than our Moon appears to us; for, in truth, he is so much bigger than she: He is also much nearer to them, than our Moon is to us, the which makes him appear the greater, so that this formidable Planet hangs continually over their heads, at a very little distance. And if the *Gauls* were afraid heretofore that the Heavens would fall on 'em, I think the Inhabitants of that Moon may well be apprehensive that *Jupiter* will at some time or other overwhelm them. They are, *says she*, I fancy, possessed with that fear, because they are not concern'd at Eclipses. Every one has their due Folly: We are afraid of an Eclipse; and they, that *Jupiter* will fall on their Heads. It is very true, *said I*; the Inventer of the third System, I told you t'other Night, the famous *Tycho Brahe*, one of the great-

eſt Aſtronomers that ever was, did not apprehend the leaſt danger from an Eclipſe, when every body elſe was under the greateſt Conſternation; yet this great Man had as an unaccountable a fear: did a Hare croſs him, or were the firſt Perſon he met in a Morning an old Woman, home preſently went *Tycho Brahe*, he ſhut himſelf up for that day, and would not meddle with the leaſt Buſineſs.

LET us go on with ours, tho', *ſaid the Counteſs*, and leave *Tycho Brahe* to defend his Superſtition. Pray tell me, if the Earth be ſo little in Compariſon of *Jupiter*, whether his Inhabitants do diſcover us? Indeed, *ſaid I*, I believe not; for if we appear to him ninety times leſs than he appears to us, judge you if there be any Poſſibility. Yet this we may reaſonably conjecture, that there are Aſtronomers in *Jupiter*, that after they have made the moſt curious Teleſcopes, and taken the cleareſt Night for their Obſervations, they may have diſcover'd a little Planet in the Heavens, which they never ſaw before. If they publiſh their Diſcovery, moſt People know not what they mean, or laugh at them for Fools; nay, the Philoſophers themſelves will not believe 'em, for fear of deſtroying their own Opinions; yet ſome few may be a little curious; they continue their Obſervations, diſcover the little

little Planet again, and are now assur'd it is no Vision; then they conclude it hath a Motion round the Sun, which it compleats in a Year; and at last (thanks to the Learned) they know in *Jupiter* our Earth is a World, every body runs to see it at the End of the Telescope, tho' 'tis so little, 'tis hardly discover'd.

IT must be pleasant, *says she*, to see the Astronomers of both Planets levelling their Tubes at one another, like two Files of Musqueteers, and mutually asking, what World is that? What People inhabit it? Not so fast neither, *I reply'd*; for tho' they may from *Jupiter* discover our Earth, yet they may not know us; that is, they may not have the least Suspicion it is inhabited; and should any one there chance to have such a Fancy, he might be sufficiently ridicul'd, if not prosecuted for it. For my part, I believe they have work enough to make Discoveries on their own Planet, not to trouble their Heads with ours: And had Sir *Francis Drake* and *Columbus* been in *Jupiter*, they might have had good Employments; why, I warrant you they have not yet discover'd the hundredth Part of their Planet. But if *Mercury* is so little, they are all, as it were, near Neighbours; and 'tis but taking a Walk, to go round that Planet. But if we do not appear to 'em in *Jupiter*, they cannot

certainly discover *Venus* and *Mercury*, which are much less than the Earth, and at a greater Distance; but in lieu of it, they see *Mars*, their own four Moons, and *Saturn* with his: This, I think, is work enough for their Astronomers; and Nature hath been so kind to conceal from them the rest of the Universe. Do you think it a Favour then, *says she?* Yes, certainly, *said I*; for there are sixteen Planets in this great Vortex. Nature saves us the Trouble of studying the Motions of them all, and shews us but seven, which, I think, is very obliging, tho' we know not how to value the Kindness; for we have recover'd the other nine which were hid from us, and so render the Science of Astronomy much more difficult than Nature design'd it.

If there are sixteen Planets, *said she*, *Saturn* must have five Moons. 'Tis very true, *said I*; and two of these five are but lately discover'd; but there is somewhat that is more remarkable; since his Year is thirty of ours, there are consequently in him some Countries, where their Night is fifteen Years long; and what can you imagine Nature hath invented to give Light, during so dreadful a Night? Why, she hath not only given *Saturn* five Moons, but she hath encompass'd him round with a great Circle or Ring, the which

which being plac'd beyond the Reach of the Shadow which the Body of that Planet casts, reflects the Light of the Sun continually on those Places where they cannot see the Sun at all.

I protest, *says the Countess*, this is very surprising; and yet all is contriv'd in such great Order, that it is impossible not to think but Nature took time to consider the Necessities of all animate Beings, and that the Disposing of these Moons was not a Work of Chance; for they are only divided among those Planets which are fartherest distant from the Sun, the Earth, *Jupiter*, *Saturn*. Indeed it was not worth while to give any to *Mercury* or *Venus*; they have too much Light already; and they account their Nights (as short as they are) a greater Blessing than their Days. But pray, why was not *Mars* a Moon too? it seems he has none, tho' he is much further than the Earth from the Sun. It is very true, *said I*; no doubt but he hath other Helps, tho' we don't know 'em: You have seen the *Phosphorus*, both liquid and dry, how it receives and imbibes the Rays of the Sun, and what a great Light it will cast in a dark Place. Perhaps, *Mars* hath many great high Rocks, which are so many natural *Phosphorus's*, which, in the Day, take in a certain Provision of Light, and return it again at Night. What

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think you, Madam, is it not very pleasant when the Sun is down, to see those lighted Rocks, like so many Illuminations at a Birth-day Night? Besides, there is a kind of Bird in *America* that yields such a Light, you may read by it in the darkest Night; and who knows but *Mars* may have great Flocks of these Birds, that as soon as it is Night, disperse themselves into all Parts, and spread from their Wings another Day?

I am not at all contented, *says she*, with your Rocks or your Birds: 'Tis a pretty Fancy indeed; but 'tis a Sign that there should be Moons in *Mars*, since Nature hath given so many to *Saturn* and *Jupiter*; and if all the other Worlds that are distant from the Sun have Moons, why should *Mars* only be excepted? Ah, Madam, *said I*, when you are a little more dipt in Philosophy, you will find Exceptions in the very best Systems. There are always some Things that agree extreme well; but then there are others that do not accord at all; those you must leave as you found 'em, if ever you intend to make an End. We will do so by *Mars*, if you please, and say no more of him, but return to *Saturn*. What do you think of his great Ring, in the Form of a Semicircle, that reaches from one End of the Horizon to the other, which reflecting the Light of the Sun, performs the

the Office of a continual Moon? And must we not inhabit this Ring too, *says she?* I confess, *said I*, in the Humour I am in, I could almost send Colonies every where; and yet I can't well plant any there, it seems so irregular a Habitation: But for the five little Moons, they cannot chuse but be inhabited; tho' some think this Ring is a Circle of Moons, which follows close to one another, and have an equal Motion, and that the five little Moons fell out of this Circle; how many Worlds are there then in the Vortex of *Saturn?* But let it be how it will, the People in *Saturn* live very miserably. 'Tis true, this Ring gives great Light to 'em; but it must be a very poor one, when the Sun seems to 'em but a little pale Star, whose Light and Heat cannot but be very weak at so great a Distance: They say *Greenland* is a perfect *Bagnio*, in Comparison of that Planet, and that they would expire with Heat in our coldest Countries.

YOU give me, *says she*, such an Idea of *Saturn*, that makes me shake with Cold, and that of *Mercury* puts me into a Fever. It cannot be otherwise, *I reply'd*; for the two Worlds, which are the Extremities of this great Vortex, must be opposite in all Things. They must then, *says she*, be very wise in *Saturn*; for you told me they were all Fools in *Mercury*.

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If they are not wise, *said I*; yet they have all the Appearances of being very Phlegmatick. They are People that know not what it is to laugh; they take a Day's Time to answer the least Question you can ask them, and are so very grave, that were *Cato* living among them, they would think him a *Merry-Andrew*.

IT is odd to consider, *says she*, that the Inhabitants of *Mercury* are all Life, and the Inhabitants of *Saturn* quite contrary; but among us, some are brisk, and some are dull: It is, I suppose, because our Earth is plac'd in the middle of the other Worlds, and so we participate of both Extremes, there is no fix'd or determin'd Character; some are made like the Inhabitants of *Mercury*, some like those of *Saturn*; we are a mixture of the several Kinds that are found in the rest of the Planets. Why, *said I*, do you not approve of the Idea? Methinks, it is pleasant to be compos'd of such a fantastical Assembly, that one would think we were collected out of different Worlds. We need not travel, when we see the other Worlds in Epitome at home.

I am sure, *says the Countess*, we have one great Convenience in the Situation of our World; it is not so hot as *Mercury* or *Venus*, nor so cold as *Jupiter* or *Saturn*; and our Country is so justly plac'd, that we have no Excess either of Heat or Cold.

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I have heard of a Philoſopher, who gave Thanks to Nature, that he was born a Man, and not a Beaſt, a *Greek*, and not a *Barbarian*: And for my Part, I render Thanks, that I am ſeated in the moſt temperate Planet of the Univerſe, and in one of the moſt temperate Regions of that Planet. You have more reaſon, *ſaid I*, to give Thanks that you are young, and not old; that you are young and handſome, and not young and ugly; that you are young, handſome, and an *Engliſh* Woman, and not young, handſome, and a *Spaniard*, or an *Italian*: Theſe are other-gueſs Subjects for your Thanks, than the Situation of your Vortex, or the Temperature of your Country.

PRAY, Sir, *ſays ſhe*, let me give Thanks for all Things, to the very Vortex in which I am planted. Our Proportion of Happineſs is ſo very ſmall, that we ſhould loſe none, but improve continually what we have, and be grateful for every Thing, tho' ever ſo common or inconſiderable. If nothing but exquiſite Pleaſure will ſerve us, we muſt wait a long Time, and be ſure to pay too dear for it at laſt. I wiſh, *ſaid I*, that Philoſophy was the Pleaſure you propoſe, that when you think of Vortexes, you would not forget an humble Servant of your Ladyſhip's. I eſteem it a Pleaſure, *ſays ſhe*, while it diverts innocently,

cently, but no longer. I will engage for it till To-morrow, *I reply'd*; for the fixed Stars are beyond what you have yet seen.

The Fifth Evening.

THE Countess was very impatient to know what would become of the fixed Stars: are they inhabited, *says she*, as the Planets are, or are they not inhabited? What shall we do with 'em? You may soon guess, *said I*; the fixed Stars can't be less distant from the Earth than fifty Millions of Leagues; nay, if you anger an Astronomer, he will set 'em further. The Distance from the Sun to the farthest Planet is nothing in Comparison of the Distance from the Sun, or from the Earth, to the fixed Stars; it it almost beyond Arithmetick. You see their Light is bright and shining; and did they receive it from the Sun, it must needs be very weak after a Passage of fifty Millions of Leagues: Then judge how much it is wasted by Reflection; for it comes back again as far to us; so that forwards and

and backwards, here are an hundred Millions of Leagues for it to pass; and it is impossible it should be so clear and strong as the Light of a fixed Star, which cannot but proceed from it self; so that, in a Word, all the fixed Stars are so many Suns.

I perceive, *says the Countess*, where you would carry me; you are going to tell me, that if the fixed Stars are so many Suns, and our Suns the Centre of a Vortex that turns round him; why may not every fixed Star be the Centre of a Vortex, that turns round the fixed Star? Our Sun enlightens the Planets; why may not every fixed Star have Planets to which they give Light? You have said it, *I reply'd*, and I will not contradict you.

YOU have made the Universe so large, *said she*, that I know not where I am, or what will become of me: What, is it all to be divided into Heaps confusedly, one among another? Is every Star the Centre of a Vortex, as big as ours? Is that vast Space which comprehends our Sun and Planets, but an inconsiderable Part of the Universe? And are there as many such Spaces, as there are fixed Stars? I protest it is dreadful. Dreadful, Madam, *said I*; I think it very pleasant: When the Heavens were a little blue Arch, stuck with Stars, methought the Universe was too

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ſtrait and cloſe; I was almoſt ſtifled for want of Air; but now it is enlarg'd in Height and Breadth, and a Thouſand and a Thouſand Vortexes taken in, I begin to breathe with more Freedom, and think the Univerſe to be incomparably more magnificent than it was before. Nature hath ſpar'd no Coſt, even to Profuſeneſs; and nothing can be ſo glorious, as to ſee ſuch a prodigious number of Vortexes, whoſe ſeveral Centres are poſſeſs'd by a particular Sun, which makes the very Planets turn round it. The Inhabitants of a Planet of one of theſe innumerable Vortexes, ſee on all ſides theſe luminous Centres of the Vortex, with which they are encompaſs'd; but perhaps they do not ſee the Planets, who, receiving but a faint Light from their Sun, cannot ſend it beyond their own World.

You preſent me with a kind of Perſpective of ſo vaſt a Length, that no Eye can reach to the End of it. I plainly ſee the Inhabitants of the Earth, and you have made me diſcover thoſe that dwell in the Moon, and in other Planets of our Vortex; but theſe indeed, I do not ſee ſo clearly as thoſe of the Earth: After theſe we come to the Inhabitants of the Planets which are in the other Vortexes, but they are ſunk into ſo great a Depth, that tho' I do all I can to ſee them, yet I muſt confeſs

feſs I can hardly perceive 'em. By the Expreſſion you uſe in ſpeaking of 'em, they ſeem to be almoſt annihilated; you ought then to call 'em the Inhabitants of one of thoſe innumerable Vortexes: We ourſelves, for whom the ſame Expreſſion ſerves, muſt confeſs, that we ſcarce know where we are, in the midſt of ſo many Worlds; for my own Part, I begin to ſee the Earth ſo fearfully little, that I believe from henceforth I ſhall never be concern'd at all for any Thing. That we ſo eagerly deſire to make ourſelves great, that we are always deſigning, always troubling and haraſſing ourſelves, is certainly becauſe we are ignorant what theſe Vortexes are; but now I hope my new Lights will in part juſtify my Lazineſs; and when any one reproaches me with my Careleſneſs, I will anſwer, *Ah, did you but know what the fix'd Stars are!* It was not fit, *ſaid I*, that *Alexander* ſhould know what they were; for a certain Author who maintains that the Moon is inhabited, very gravely tells us, That *Ariſtotle* (from whom no Truth could be long conceal'd) muſt neceſſarily be of an Opinion, back'd with ſo much Reaſon; but yet he could never acquaint *Alexander* with the Secret, fearing he might run mad with Deſpair, when he knew there was another World which he could not conquer. With much more reaſon then was this Myſtery

of Vortexes, and fix'd Stars kept secret in *Alexander*'s Time; for tho' they had been known in those Days, yet a Man would have been a great Fool, to have said any Thing of 'em to *Alexander*; it had been but an ill way of making his Court to that ambitious Prince: For my part, I that know 'em, am not a little troubled to find my self not one Jot the wiser for all the Knowledge I have of 'em; the most they can do, according to your way of reasoning, is but to cure People of their Ambition, and their unquiet restless Humour, which are Diseases I am not at all troubled with: I confess, I am guilty of so much Weakness, as to be in love with what is beautiful; that's my Distemper; and I am confident the Vortexes can never cure it. What if the other Worlds render ours so very little? they cannot spoil fine Eyes, or a pretty Mouth; their Value is still the same, in spite of all the Worlds that can possibly exist.

THIS Love, *reply'd the Countess*, smiling, is a strange thing; let the World go how 'twill, 'tis never in danger; there is no System can do it any harm. But tell me freely, is your System true? Pray conceal nothing from me; I will keep your Secret very faithfully; it seems to have for its Foundation but a slight Probability;

bability; which is, that if a fix'd Star be in it self a luminous Body, like the Sun, then, by consequence, it must, as the Sun is, be the Centre and Soul of a World, and have its Planets turning round about it. But is there an absolute necessity it must be so? Madam, *said I*, since we are in the humour of mingling amorous Follies with our most serious Discourse, I must tell you, that in Love and the Mathematicks, People reason alike. Allow ever so little to a Lover, yet presently you must grant him more, nay more and more, which will at last go a great way. In like manner, grant but a Mathematician one little Principle, he immediately draws a Consequence from it, to which you must necessarily assent; and from this Consequence another, till he leads you so far (whether you will or no), that you have much ado to believe him. These two sorts of People, Lovers and Mathematicians, will always take more than you give them. You grant, that when two things are like one another in all those Things that appear to you, it is possible they may be like one another in those Things that are not visible, if you have not some good Reason to believe otherwise. Now this way of arguing have I made use of. The Moon, *say I*, is inhabited, because she is like the Earth;

and the other Planets are inhabited, because they are like the Moon I find the fix'd Stars to be like our Sun, therefore I attribute to them what is proper to that. You are now gone too far to be able to retreat; therefore you must go forward with a good Grace. But, *says the Countess*, if you build upon this Resemblance or Likeness which is between our Sun and the fix'd Stars, then, to the People of another great Vortex, our Sun must appear no bigger than a small fix'd Star, and can be seen only when 'tis Night with them. Without doubt, Madam, *said I*, it must be so: Our Sun is much nearer to us, than the Suns of other Vortexes, and therefore its Light makes a much greater impression on our Eyes, than theirs does. We see nothing but the Light of our own Sun; and when we see that, it darkens and hinders us from seeing any other Light: But, in another great Vortex, there is another Sun, which rules and governs, and, in its turn, extinguisheth the Light of our Sun, which is never seen there but in the Night, with the rest of the other Suns, that is, the fix'd Stars: with them, our Sun is fastned to the great arched Roof of Heaven, where it makes a part of some Bear or Bull; for the Planets which turn round about it, (our Earth for example) as they are not seen at

so

ſo vaſt a diſtance, ſo no body doth ſo much as dream of 'em. All the Suns then are Day-Suns in their own Vortexes; but Night-Suns in other Vortexes. In his own World or Sphere every Sun is ſingle, and there is but one to be ſeen; but every where elſe, they ſerve only to make a Number. May not the Worlds, *reply'd the Counteſs*, notwithſtanding this great Reſemblance between 'em, differ in a thouſand other Things? for though they may be alike in one Particular, they may differ infinitely in others.

IT is certainly true, *ſaid I*; but the difficulty is to know wherein they differ. One Vortex hath many Planets that turn round about its Sun; another Vortex hath but a few. In one Vortex, there are inferior or leſs Planets, which turn about thoſe that are greater; in another, perhaps, there are no inferior Planets: Here, all the Planets are got round about their Sun, in form of a little Squadron; beyond which is a great void Space, which reacheth to the neighbouring Vortexes: In another place, the Planets take their Courſe towards the outſide of their Vortex, and leave the middle void. There may be Vortexes alſo quite void, without any Planets at all; others may have their Sun not exactly in their Centre; and that Sun may ſo move, as to carry its Planets

along

along with it; others may have Planets, which, in regard of their Sun, aſcend, and deſcend, according to the change of their Equilibration, which keeps them ſuſpended. But I think I have ſaid enough for a Man that was never out of his own Vortex.

IT is not ſo much, *reply'd the Counteſs*, conſidering what a Multitude of Worlds there are: What you have ſaid is ſufficient but for five or ſix, and from hence I ſee thouſands.

WHAT, Madam, would you ſay, if I ſhould tell you, there are many more fix'd Stars than thoſe you ſee? and that an infinite Number are diſcover'd with Glaſſes, which never ſhew themſelves to our Eyes. In only one Conſtellation, where it may be, we count twelve or fifteen, there are as many to be found as uſually appear in the whole Hemiſphere.

I ſubmit, *ſays the Counteſs*, and beg your pardon; you quite confound me with Worlds and Vortexes. I have yet more to tell you, Madam, *ſaid I:* You ſee that Whiteneſs in the Sky, which ſome call the *Milky-Way*; can you imagine what that is? 'Tis nothing but an Infinity of ſmall Stars, not to be ſeen by our Eyes, becauſe they are ſo very little; and they are ſown ſo thick, one by another, that they ſeem to be one continu'd Whiteneſs. I wiſh you had a Glaſs, to ſee this Ant-

hill

hill of Stars, and this Cluſter of Worlds, if I may ſo call 'em: They are, in ſome ſort, like the *Maldivian* Iſlands. Thoſe twelve thouſand Banks of Sand, ſeparated by narrow Channels of the Sea, which a Man may leap as eaſily, as over a Ditch; ſo near together are the Vortexes of the Milky-Way, that the People in one World may talk, and ſhake hands with thoſe of another; at leaſt I believe the Birds of one World may eaſily fly into another; and that Pigeons may be train'd up to carry Letters as they do in the *Levant*. Thoſe little Worlds are excepted out of that general Rule, by which one Sun in his own Vortex, as ſoon as he appears, effaceth the Light of all other foreign Suns. If you were in one of theſe little Vortexes of the Milky-Way, your Sun would not be much nearer to you, and conſequently would not make any much greater ſenſible Impreſſion on your Eyes, than an hundred thouſand other Suns of the neighbouring Vortexes. You would then ſee your Heaven ſhine bright with an infinite Number of Fires, cloſe to one another, and but a little diſtant from you; ſo that though you ſhould loſe the Light of your own particular Sun, yet there would ſtill remain viſible Suns enough beſide your own, to make your Night as light as Day, at leaſt the difference would hardly be perceiv'd; for the

Truth

Truth is, you would never have any Night at all. The Inhabitants of these Worlds, accustom'd to perpetual Brightness, would be strangely astonish'd, if they should be told, that there are a miserable sort of People, who, where they live, have very dark Nights, and, when 'tis Day with them, they never see more than one Sun; certainly they would think Nature had very little Kindness for us, and would tremble with Horror, to think what a sad Condition we are in.

I do not ask you, *said the Countess*, whether in those Worlds of the Milky-Way, there be any Moons; I see they would be of no use to those principal Planets which have no Night, and move in Spaces too strait and narrow to cumber themselves with the Baggage of inferior Planets: Yet pray take notice, that by your liberal Multiplication of Worlds, you have started an Objection not easily answer'd. The Vortexes whose Suns we see, touch the Vortex in which we are; and, if it be true, that Vortexes are round, how then can so many Bowls or Globes all touch one single one? I would fain imagine how this may be done, but cannot think which way.

You shew a great deal of Wit, Madam, *said I*, in raising this Doubt, and likewise in not being able to resolve it; for

for in it ſelf the Thing is extreme difficult, and in the manner you conceive it, no Anſwer can be given to it; and he muſt be a Fool who goes about to find Anſwers to Objections which are unanſwerable. If our Vortex had the Form of a Dye, it would have ſix Squares, or flat Faces, and would be far from being round; and upon every of theſe Squares might be plac'd a Vortex of the ſame Figure: But if, inſtead of theſe ſix ſquare Faces, it had twenty, fifty, or a thouſand, then might a thouſand Vortexes be plac'd upon it, one upon every Flat; and you know very well, that the more flat Faces any Body hath on its outſide, the nearer it approacheth to Roundneſs; juſt as a Diamond cut facet-wiſe on every ſide, if the Facets be very many and little, it will look as round as a Pearl of the ſame Bigneſs. 'Tis in this manner that the Vortexes are round; they have an infinite number of Facets on their outſide, and every one of 'em hath upon it another Vortex. Theſe Facets are not all equal and alike; but here ſome are greater, and there ſome are leſs: The leaſt Facets of our Vortex, for example, anſwer to the Milky-Way, and ſuſtain all thoſe little Worlds. When two Vortexes are ſupported by the two next Flats on which they ſtand, if they leave beneath any void

ſpace between them, as it muſt often happen, Nature, who is an excellent Houſewife, and ſuffers nothing to be uſeleſs, preſently fills up this void Space with a little Vortex or two, perhaps with a thouſand, which never incommode the others, and become one, two, or a thouſand Worlds more; ſo that there may be many more Worlds than our Vortex hath flat Faces to bear 'em. I will lay a good Wager, that though theſe little Worlds were made only to be thrown into the Corners of the Univerſe, which otherwiſe would have been void and uſeleſs; and though they are unknown to other Worlds which they touch, yet they are well ſatisfy'd with their being where they are. Theſe are the little Worlds whoſe Suns are not to be diſcover'd but with a Teleſcope, and whoſe Number is prodigious. To conclude, all thoſe Vortexes are join'd to one another in ſo admirable a manner, that every one turns round about his Sun, without changing place; every one hath ſuch a Turn as is moſt eaſy and agreeable to its own Situation; they take hold of one another, like the Wheels of a Watch, and mutually help one another's Motion: And yet, 'tis true, that they act contrary to one another. Every World, as ſome ſay, is like a Foot-Ball, made of a Bladder, cover'd with Leather, which ſometimes

times swells of its own accord, and would extend itself, were it not hinder'd. But this swelling World being press'd by the next to it, returns to its first Figure; then swells again, and is again depress'd: And some affirm, that the reason why the fix'd Stars give a twinkling and trembling Light, and sometimes seem not to shine at all, is because their Vortexes perpetually push and press our Vortex, and ours again continually repulseth theirs.

I am in love with these Fancies, *said the Countess*; I am pleas'd with these Foot-Balls, which swell every moment, and sink again, and with those Worlds, which are continually striving, and pushing one another: But, above all, I am pleas'd to see how this justly keeps up the Trade of Light, which is certainly the only Correspondence that is between them.

No, no, Madam, *said I*; Light is not their sole Commerce; the neighbouring Worlds sometimes send Visits to us, and that in a very magnificent and splendid Manner: There come Comets to us from thence, adorn'd with bright shining Hair, venerable Beards, or majestick Tails. These, *said the Countess*, are Ambassadors, whose Visits may be well spared, since they serve only to affright us. They scare only Children, *said I*, with their extraordinary Train; but indeed, the number of such Children

is now-a-days very great. Comets are nothing but Planets, which belong to a neighbouring Vortex, they move towards the Outside of it; but perhaps this Vortex being differently press'd by those Vortexes which encompass it, it is rounder above than it is below, and it is the lower Part that is still towards us. These Planets which have begun to move in a Circle above, are not aware that below their Vortex will fail 'em, because it is as it were broken. Therefore to continue the circular Motion, it is necessary that they enter into another Vortex, which we will suppose is ours, and that they cut through the Outsides of it. They appear to us very high, and are much higher than *Saturn*; and according to our System, it is absolutely necessary they should be so high, for Reasons that signify nothing to our present Subject. From *Saturn* downwards to the Outsides of our Vortex, there is a great void Space without any Planets. Our Adversaries often ask us, to what Purpose this void Space serves? But let them not trouble themselves any more; I have found an use for it: 'Tis the Apartment of those strange Planets, which come into our World.

I understand you, *says she*; we do not suffer them to come into the Heart of our Vortex, among our own Planets, but we re-

receive them as the *Grand Signior* doth the Ambaſſadors that are ſent to him; he will not ſhew them ſo much Reſpect as to let 'em lodge in *Conſtantinople*, but quarters 'em in one of the Suburbs of the City. Madam, *ſaid I*, we and the *Ottomans* agree likewiſe in this, that as we receive Ambaſſadors, but never ſend any, ſo we never ſend any of our Planets into the Worlds that are next us.

BY this, *ſays ſhe*, it appears, that we are very proud; however, I do not yet very well know what I am to believe. Theſe foreign Planets with their Tails and their Beards, have a terrible Countenance, it may be they are ſent to affront us; but ours that are of another Make, if they ſhould get into other Worlds, are not ſo proper to make People afraid.

THEIR Beards and their Tails, Madam, *ſaid I*, are not real, they are *Phænomena*, and but mere Appearances. Theſe foreign Planets differ in nothing from ours; but entring into our Vortex, they ſeem to us to have Tails or Beards, by a certain ſort of Illumination which they receive from the Sun, and which hath not been yet well explain'd. But certain it is, that 'tis but a kind of Illumination; and when I am able, I will tell you how 'tis done. I wiſh then, *ſays ſhe*, that our *Saturn* would go take a Tail and a Beard in

another Vortex, and affright all the Inhabitants of it. That done, I would have him come back again, leaving his terrible Accoutrements behind him, and taking his usual Place amongst our other Planets, fall to his ordinary Business. 'Tis better for him, *said I*, not to go out of our Vortex. I have told you how rude and violent the Shock is, when two Vortexes justle one another, a poor Planet must needs be terribly shaken, and its Inhabitants in no better Condition. We think our selves very unhappy when a Comet appears; but 'tis the Comet that is in an ill Case. I do not believe that, *says she*; it brings all its Inhabitants with it in very good Health; there can be nothing so diverting as to change Vortexes. We that never go out of our own, lead but a dull Life. If the Inhabitants of a Comet had but the Wit to foresee the Time when they are to come into our World, they that had already made the Voyage, would tell their Neighbours before-hand what they would see; they would tell them, that they would discover a Planet with a great Ring about it, meaning our *Saturn*; they would also say, you shall see another Planet which hath four little ones to wait on it; and perhaps some of them, resolv'd to observe the very Moment of their Entring into our World, would presently cry out,

A

A new Sun, a new Sun! as Sailors use to cry, *Land, Land!*

YOU have no reason then, *said I*, to pity the Inhabitants of a Comet; yet I suppose you will think their Condition lamentable, who inhabit a Vortex whose Sun comes in Time to be quite extinguish-ed, and consequently live in eternal Night. How, *cry'd the Countess*, can Suns be put out? Yes, without doubt, *said I*; for People some thousand Years ago saw fixed Stars in the Sky, which are now no more to be seen; these were Suns which have lost their Light, and certainly there must be strange Desolation in their Vortexes, and a general Mortality over all the Planets; for what can People do without a Sun? This is a dismal Fancy, *said the Countess*, I would not if I could help it, let it come into my Head. I will tell you if you please, *I reply'd*, what in this Particular is the Opinion of learned Astronomers. They think that the fixed Stars which have disappear'd, are not quite extinguish'd, but that they are half Suns, that is, they have one half dark, and the other half light; and turning round upon their own Axis or Centre, they sometimes shew us their light Side, and afterwards turning to us their dark Side, we see them no more. To oblige you, Madam, I will be of this Opinion, because it is not so harsh as the

other; but I cannot make it good, but in Relation to some certain Stars; because as some have lately observ'd, those Stars have their regulated Times of appearing and disappearing, otherwise there could be no such Thing as half Suns. But what shall we say of Stars, which totally disappear, and never shew themselves again after they have finish'd their Course of turning round upon their own Axis? You are too just, Madam, to oblige me to believe that such Stars are half Suns. However, I will try once more what I can do in favour of your Opinion: The Suns are not extinct, they are only sunk so low into the immense Depth of Heaven, that we cannot possibly see them; in this Case the Vortex follows his Sun, and all's well again. 'Tis true, that the greatest Part of the fixed Stars have not this Motion, by which they remove themselves so far from us, because at other Times they might return again nearer to us, and we should see them sometimes greater, and sometimes less, which never happens. But we will suppose that none but the little, light, and most active Vortexes, which slip between the others, make certain Voyages, after which they return again, while the main Body of Vortexes remain unmov'd. 'Tis likewise very strange, that some fixed Stars shew themselves to us, spending a great deal of Time in

in appearing and disappearing, and at last totally and entirely disappear. Half Suns would appear again at their set and regulated Time. Now, Madam, boldly declare your Opinion: Must not these Stars of Necessity be Suns, which are so much darkned, as not to be visible to us, yet afterwards shine again, and at last are wholly extinct? How can a Sun, *said the Countess*, be darkned, and quite extinguish'd, when it is in its own Nature a Fountain of Light? It may be done, Madam, *said I*, with all the Ease in the World, if *Descartes*'s Opinion be true, that our Sun hath Spots; now whether these Spots be Scum or thick Mists, or what you please, they may thicken and unite, till at last they cover the Sun with a Crust, which daily grows thicker, and then farewel Sun. We have hitherto 'scap'd pretty well; but, 'tis said, that the Sun for some whole Years together hath look'd very pale; for Example, the Year after *Cæsar*'s Death, it was this Crust that then began to grow, but the Force of the Sun broke and dissipated it; had it continued, we had been all lost People. You make me tremble, *reply'd the Countess:* And now I know the fatal Consequences of the Sun's Paleness, I believe, instead of going every Morning to my Glass, to see how I look, I shall cast my Eyes up to Heaven, to see whether or

no

no the Sun looks pale. Oh, Madam, *said I*, there is a great deal of Time required to ruin a World. Grant it, *said she*; yet 'tis but Time that is requir'd. I confess it, *said I*; all this immense Mass of Matter that composes the Universe, is in perpetual Motion, no part of it excepted: And since every part is moved, you may be sure that Changes must happen sooner or later, but still in Times proportion'd to the Effect. The Antients were pleasant Gentlemen, to imagine that the celestial Bodies were in their own Nature unchangeable, because they observed no Change in them; but they did not live long enough to confirm their Opinion by their own Experience, they were Boys in comparison of us. Give me leave, Madam, to explain my self by an Allegory: If Roses, which last but a Day, could write Histories, and leave Memoirs one to another; and if the first Rose should draw an exact Picture of their Gardiner, and after fifteen thousand Rose-Ages, it should be left to other Roses, and so left still to those that should succeed without any Change in it; should the Roses hereupon say, we have every Day seen the same Gardiner, and in the Memory of Roses none ever saw any Gardiner but this, he is still the same he was; and therefore certainly he will not die as we do, for there is no Change at all in him:

Would

Would not these Roses, Madam, talk very foolishly? And yet there would be more Reason in their Discourse, than there was in what the Antients said concerning celestial Bodies; and tho' even to this very Day there should appear no visible Change in the Heavens, and the Matter of which they are made, should have all the Signs of an eternal Duration, without any Change; yet I would not believe them unchangeable, till I had the Experience of many more Ages. Ought we, who last but a Moment, to make our Continuance the Measure of any other Thing's Duration; 'tis not so easy a Matter to be eternal. To have lasted many Ages of Men, one after another, is no Sign of Immortality. Truly, *says the Countess*, I find the Worlds are far from being able to pretend to it; I will not do them so much honour as to compare them to the Gardiner that lived so much longer than the Roses. I begin to think like the Roses themselves, which blow one Day, and die the next: For now I understand that if old Stars disappear, new ones will come in their Room, because every Species must preserve itself. No Species, Madam, *said I*, can totally perish; some perhaps will tell you, that such new Stars are Suns, which return to our Sight again, after they have been a long Time hid from us in the Profundity of

of Heaven: Others may tell you, they are Suns cleared from that thick Crust, which once cover'd them. If I should think all this possible, yet I likewise believe that the Universe may be fram'd in such a manner, that from time to time it may produce new Suns; why may not that Matter, which is proper to make a Sun, be dispers'd here and there, and gather itself again at long run into one certain Place, and lay the Foundation of a new World? I am very much inclin'd to believe such new Productions, because they suit with that glorious and admirable Idea which I have of the Works of Nature. Can we think that wise Nature knows no more than the Secret of making Herbs and Plants live and die by a continual Revolution? I am verily persuaded, and are you not so too, Madam, that Nature, without much cost or pains, can put the same Secret in practice upon the Worlds? I now find, *says the Countess*, the Worlds, the Heavens, and Celestial Bodies so subject to change, that I am come to myself again. To come the better again to ourselves, *I reply'd*, let us say no more of these Matters. We are arriv'd at the very Roof and Top of all the Heavens; and to tell you whether there be any Stars beyond it, you must have an abler Man than I am: You may

place

place Worlds there, or no Worlds, as you pleaſe. 'Tis the Philoſopher's Empire to deſcribe thoſe vaſt inviſible Countries, which are, and are not, or are ſuch as he pleaſes to make them: It is enough for me to have carry'd your Mind as far as you can ſee with your Eyes.

WELL, *ſays the Counteſs*, I have now in my Head the Syſtem of the Univerſe. How learned am I become! Indeed, Madam, *ſaid I*, you are pretty knowing; and you are ſo with the advantage of believing, or not believing any thing I have ſaid. For all my pains I only beg this Favour, that whenever you ſee the Sun, the Heaven, or the Stars, you will think of me.

The

The Sixth EVENING.

FOR a long time the Countess and I had no farther Discourse concerning the Worlds; so that I think we had in a manner forgot we ever talk'd about them: When going to make her a Visit, I happen'd to come in just as two Men of Wit, whose Characters are well known, were taking leave. You observe, *said she*, as soon as she saw me, what sort of Visitors I have had: and I must own to you, they have left me under some suspicion, that you have spoil'd my Understanding. *I reply'd*, I should be very proud to have had so much power over her; for I thought no body could undertake a more difficult Task. I'm afraid, however, *says she*, 'tis too true. I fell, I know not how, into a Conversation about the Worlds with the Gentlemen you saw, who, for aught I know, drew me into it out of mere Malice. I made no scruple of affirming it roundly to them, that the Planets were inhabited. One of 'em told me very positively, he was very sure I did not believe it. Poor

I,

I, with all the ſimplicity imaginable, maintain'd that I did. He took it all as a Feint of one who meant only to be merry; and I doubt the Reaſon why he perſiſted ſo obſtinately in disbelieving me concerning my own Sentiments was, that he had too great an eſteem for me to imagine me capable of ſo extravagant an Opinion. The other, indeed, whoſe Reſpect for me did not riſe ſo high, took me at my word, and believ'd me: But why would you ſet my Head a running upon a thing, which no one, who values me, can ever be perſuaded I am ſerious in maintaining? And why, Madam, *anſwer'd I*, ſhould you maintain it ſeriouſly with Perſons, who, I am confident, never apprehend any Reaſoning which is in the leaſt degree ſerious? Muſt the Inhabitants of the Planets be put to ſuch hazards? No; let us content ourſelves with our little ſelect Party that believes them, and not publiſh our Myſteries to the Vulgar. I hope, *ſaid ſhe*, you don't call thoſe two Gentlemen the Vulgar. They have a great deal of Wit, *I anſwer'd*; but they never reaſon: And the Reaſoners, who are blunt Speakers, and compliment no body, call all ſuch the Vulgar, without any difficulty. On the other hand, ſuch Perſons revenge themſelves by turning the Reaſoners into ridicule; and it ſeems to be

be very happily order'd, that each Kind deſpiſes the Talent it wants. One ought, if it were poſſible, to accommodate one's ſelf to every Man after his particular kind. Accordingly, it would have been much better to have made the Inhabitants of the Planets a Subject of Pleaſantry with thoſe Gentlemen, than of Reaſoning; becauſe they underſtand Pleaſantry, but not Reaſoning. By this method, you would have ſent them away with the higheſt Eſteem of you; and the Planets would have loſt not a ſingle Inhabitant of their Number. What, *cry'd the Counteſs warmly*, ſhould I betray the Truth! certainly you are a Man of no Conſcience. I muſt confeſs, *reply'd I*, that I have no mighty Zeal for Truths of this Nature, and would freely ſacrifice a thouſand of them to the ſmalleſt Conveniencies in Society. For inſtance; I ſee what hinders, and what will continually hinder People from thinking the Opinion of the Planets not being inhabited, ſo probable and well-grounded, as in reality it is: The Planets always appear to the Eye like Bodies that give light, and not as large Countries, or ſpacious Fields. We ſhould eaſily believe that Fields or Countries might be inhabited, but not luminous Bodies. 'Tis in vain that Reaſon informs us there are Countries and Fields in the Planets. Reaſon comes

comes too late: The Sight has first had its Effect upon us; we are deaf to all she can say, and the Planets are nothing but luminous Bodies. Besides, what Shape can their Inhabitants have? Our Imagination must immediately represent to us their Figures, which is not in our power. The shortest way then is, to believe they are not in being. Now, in order to fix Inhabitants in the Planets, in which I am so remotely interested, would you have me attack those formidable Powers, call'd the Senses and the Imagination? An Enterprize that requires no small Courage. One cannot easily persuade Men to make their Eyes give place to their Reason. I meet with several who have so much Reason as to be willing, after a multitude of Proofs, to believe the Planets are Earths; but they do not believe it in the same manner as they would if they had not seen them under a different Appearance. The Idea they first receiv'd of them is perpetually returning, and they never entirely quit it. These are the Persons, who in believing this Opinion of ours, seem however to do it a favour, and to incline to it only on account of a certain Pleasure the Singularity of it affords them.

WHAT! *interrupted she*, is it not sufficient then, that an Opinion is probable and likely to be true? You would be

ſurpriz'd, *I anſwer'd*, if I ſhould ſay this Term *probable* and *likely* to be true, is a very modeſt Expreſſion. Is it only probable there was ſuch a Man as *Alexander?* You are certain of it; and upon what is this Certainty founded? Upon this: you have all the Proofs you can deſire in a matter of this nature; and there is not the leaſt occaſion of doubting to make you ſuſpend your Aſſent: Yet you have never ſeen *Alexander*, nor have you a Mathematical Demonſtration that he muſt have been. But what will you ſay if the Caſe ſhould be very much the ſame with the Inhabitants of the Planets? There is no way to give you a ſight of them, nor can you demand it to be demonſtrated like a Point in the Mathematicks; but you have all the Proofs which can be ask'd in ſuch a Caſe: The perfect Reſemblance between the Planets and the Earth which is inhabited; the Impoſſibility to imagine any other uſe for which they are made; the Fruitfulneſs and Magnificence of Nature, and ſome particular Regards ſhe appears to have had for the Neceſſities of their Inhabitants, by giving Moons, for inſtance, to the Planets which are far off from the Sun, and ſeveral to thoſe which are the moſt diſtant: And, what is very important, there is all this on the one hand, and nothing at all on the other;

nor

nor can you find the leaſt Reaſon to queſtion it, unleſs you reaſſume the Eyes and Wit of the Vulgar. In ſhort, ſuppoſing there were theſe Inhabitants, they could not ſhew themſelves by more Tokens, nor more ſenſible ones. After all this, Madam, pray conſider whether you ought to look upon it as a matter merely probable? But you would not have this, *reply'd ſhe*, appear as certain to me, as it does that there was an *Alexander?* Not quite, *anſwer'd I*; for though we have as many Proofs of the Inhabitants of the Planets as we can come at in the Situation we are plac'd in, yet thoſe Proofs are not very numerous. In truth, *cry'd the Counteſs*, I am on the point of rejecting theſe Inhabitants; I am at ſuch a loſs under what Rank to conſider them: They are not abſolutely certain, it ſeems, and yet they are more than probable; this embaraſſes me too much. Ah, Madam, *reply'd I*, never let that diſcourage you. The moſt common and ordinary Clocks point out the Hours; but only thoſe which are more curiouſly made, expreſs the Minutes. In like manner, a common Capacity eaſily perceives the difference between a bare Probability, and abſolute Certainty; but it is only a refin'd Underſtanding which obſerves the ſeveral degrees of either; and, as I may ſay, diſtinguiſhes the Minutes.

You may place the Inhabitants of the Planets a little short of *Alexander*; but beyond many Points of History which are not prov'd. And this, I think, is their proper Place. I love Order, *says she*; and I am oblig'd to you for ranging my Ideas. But why did you not do it sooner? Because, *said I*, though you believ'd the Inhabitants of the Planets a little more or less than the Matter deserves, there is no harm done. I am sure you don't believe the Motion of the Earth as much as you ought; but are you therefore to be pity'd? Oh, for that, *says she*, I do as I ought; and you have nothing to reproach me with. I firmly believe that the Earth moves. In the mean time, *said I*, I have not yet given you the best Proof of it. Nay then, *says she*, 'tis a sort of Treachery, to have drawn me in to believe things, by bringing me only the slightest Proofs. What! you don't think me worthy of believing upon good Reasons? I thought best, *I reply'd*, to prove these things to your Ladyship by little soft Reasonings only, after your own way. Ought I to have produc'd sturdy and robust Arguments, as if I had been attacking a Doctor? Yes, *said she*, I desire you will at present take me for a Doctor, and produce this new Proof of the Earth's Motion.

WITH all my heart, *said I*; 'tis this -------- I am very well pleas'd with it; perhaps becauſe I fancy it is my own Diſcovery; and yet it is ſo good and ſo natural a Reaſoning, that I dare not be confident I am the Inventer. It is very certain, that a conceited Man of Learning, who would undertake to anſwer it, would be forc'd to talk a great deal; the only way by which a Man of Learning can be confounded. Either the Celeſtial Bodies revolve in 24 Hours round the Earth, or the Earth turning upon its own Axis in 24 Hours, imputes this Motion to all the Celeſtial Bodies. But that they make this Revolution round the Earth, is the moſt improbable Suppoſition in the World, though the Abſurdity of it does not immediately appear. It is plain, that all the Planets make great Revolutions round the Sun; but thoſe Revolutions are very different, according to their ſeveral Diſtances from it. The moſt remote perform their Courſe in more time, which is very natural; and the ſame Order is obſerv'd among the ſecondary Planets which turn about a great one. The four Moons of *Jupiter*, and the five Moons of *Saturn*, deſcribe their Circles in more or leſs time round their principal Planet, according as they are more or leſs diſtant from it. Beſides, the Planets have Motions upon their

their proper Centres; which Motions likewise are unequal. We don't know by what Laws this Inequality is govern'd; whether it is by the different Magnitude of the Planets, or the Velocity of the particular Vortexes which surround them, and of the liquid Matter through which they are mov'd. But, in short, this Inequality is certain; and, generally speaking, such is the Order of Nature, that whatever is common to many things, is vary'd at the same time by particular Differences.

I apprehend you, *interrupted the Countess*, and believe you have Reason in what you say. Yes, I am of your Opinion, that if the Planets turn'd about the Earth, they would do it in unequal Times, according to their Distances, as they do about the Sun: Is not that your Meaning? Exactly, Madam, *answer'd I*; their unequal Distances, with respect to the Earth, and their different Magnitudes, and the different Velocities of the particular Vortexes which inclose them, must produce Differences in this pretended Motion round the Earth, as well as in all the other Motions; and the fixed Stars, which are so prodigiously distant from us, and so far beyond the Reach of whatever could carry them round the Earth by a general Motion, or at least are seated in a Place where this Motion must be

be very weak; is there not all the Appearance imaginable, that they do not turn round the Earth in twenty-four Hours, like the Moon which is so very near us? Must not the Comets also, which belong not to our Vortex, and have Orbits so different one from another, and such different Velocities, be excus'd from running round us in the same Time? No; according to this Opinion, the fix'd Stars and Comets must all wheel about the Earth in so many Hours. However, if there were some Minutes difference in these Revolutions, one might be satisfy'd; whereas they are perform'd with the most exact Equality, or rather with the only exact Equality that is to be found; not a Minute more or less. In Truth, this Opinion ought to be violently suspected.

Nay, *said the Countess*, since it is possible, this great Equality may be only in our Imagination; I am sure it exists no where else. I am well enough pleas'd that a Thing which is not the Work of Nature, should light entirely upon us, and that she should be clear'd of it, tho' at our Expence. For my part, *answer'd I*, I am so little a Friend to this perfect Equality, that I do not find it holds so far as that the daily Revolutions of the Earth about her own Axis are made precisely in twenty-four Hours, and are always equal to one another. I

am much inclin'd to believe there is a Difference! *cry'd the Counteſs:* Pray, do not our Pendulums ſhew they are exactly equal? I muſt except, *anſwer'd I,* to the Pendulums; it is impoſſible they themſelves ſhould be exactly true; and if they were ſo ſometimes, one would, in obſerving one diurnal Revolution to be longer or ſhorter than another, believe the Pendulums irregular, rather than ſuſpect the Earth of any Irregularity in her Motion. You ſee what a pleaſant ſort of Reſpect I have for the Earth; I would truſt to her very little more than to a Pendulum; the ſame Things nearly which diſorder the one, will diſorder the other; I only believe it requires more Time to diſorder the Earth ſenſibly, than a Pendulum: This is all the Advantage I can allow her. May not the Earth by little and little approach nearer the Sun? and being then in a Place where the Matter is more agitated, and the Motion more rapid, ſhe may in leſs Time make her double Revolution both about the Sun and about her own Axis. The Years may be ſhorter, and ſo may the Days; but we may not be able to perceive it, beauſe the Year would ſtill be divided into 365 Days, and the Day into 24 Hours: And ſo without living longer than we do at preſent, we ſhould live more Years; and, on the contrary, let the Earth go farther from the Sun,

Sun, and we ſhall live fewer Years, and yet not leſs Time. It ſeems very likely, *ſaid ſhe*, that when this happens, a Series of Ages would produce but little Difference. I grant it, *anſwer'd I*; Nature is not blunt in her Conduct, and unprepar'd; her Method is to do every Thing by degrees, which are not ſenſible, unleſs in very eaſy and immediate Alterations. We can ſcarcely diſcern any other than that of the Seaſons; as for the reſt which are leiſurely, they almoſt eſcape us. In the mean time, every Thing is in a continual Motion, and there is nothing that is not grown very old, not excepting a certain Girl in the Moon, that was ſeen there by the Help of Teleſcopes about twenty Years ago; ſhe had a Face handſome enough; but now her Cheeks are ſunk, her Noſe lengthen'd, her Forehead and Chin advanc'd, ſo that all her Charms are vaniſh'd, and there are great Apprehenſions that her Days are drawing to an End.

WHAT Romance is this, *ſays the Counteſs*, interrupting me.-------- 'Tis no Rallery, Madam, I aſſure you. It ſeems there was diſcover'd in the Moon a very particular Figure, like the Head of a Woman, appearing from among the Rocks; in which Parts there has happen'd a conſiderable Change; ſome Pieces of the Mountains are fallen, and have laid open to the

Sight three Points which can now only ſerve to make the Forehead, Noſe and Chin of an old Woman. Does it not look, *ſays ſhe*, as if there was a malicious Deſtiny that particularly attends Beauty? It was this very Head of the Girl which it ſingled out of the whole Moon to attack. Perhaps to make amends, *anſwer'd I*, the Changes which happen in our Earth, may ſtrike out ſome beautiful Face for the People of the Moon to gaze at. Some Face I mean like that of the Moon; for every one clothes an Object with thoſe Ideas which are familiar to his Thoughts. Our Aſtronomers ſee in the Moon, the Faces of Girls; and perhaps if the Women were to make Obſervations, they would diſcern there the Faces of handſome Men. For my part, Madam, I don't know whether I ſhould not ſee your Ladyſhip's. I muſt confeſs, *ſaid the Counteſs*, it would be extremely obliging in any one to ſpy me out in the Moon. But to return to what you told me juſt now; do there happen conſiderable Changes to the Earth?

THERE is ſome Appearance, *ſaid I*, of ſuch a Thing. The Fables ſay, *Hercules* with his Hands divided the two Mountains *Calpe* and *Abila*, which ſtood between *Africk* and *Spain*, and prevented the Courſe of the Ocean, and that the Sea immediately ruſh'd in with Fury upon the Land, and

and made the great Gulf call'd the *Mediterranean*. Fables are not always entirely such; but are Histories of distant Times, tho' disguis'd either by the Ignorance of People, or from the Love they have for Wonders; both which Weaknesses Mankind have been subject to of old. That *Hercules* with his Hands pull'd two Mountains asunder is not very credible; but that in the Time of a certain *Hercules*, (for there have been fifty of the Name) the Ocean, assisted perhaps by an Earthquake, overturn'd two Mountains which were less strong than the rest, and forc'd a Way between *Europe* and *Africk*, I can believe without much Difficulty. Here then was a noble Spot which the Inhabitants of the Moon saw break out all at once upon our Earth. For Seas, you know, Madam, always look like Spots; at least, it is the common Opinion that *Sicily* was separated from *Italy*, and *Cyprus* from *Syria*; sometimes, new Islands also start up in the Sea; Earthquakes have sunk some Mountains, and produc'd others, and chang'd the Course of Planets. Philosophers make us afraid the Kingdoms of *Naples* and *Sicily*, the Soil of which stands upon large subterraneous Vaults fill'd with Sulphur, should one Day fall in, when the Vaults are unable to resist the Fires which are within them, and which at present are

not discharg'd by such Issues as *Vesuvius* and *Ætna*. Is not this enough to diversify the Spectacle we afford to the Inhabitants of the Moon?

I had much rather, *cry'd the Countess*, we should tire them with the same Appearance perpetually, than divert them by swallowing up Provinces.

For ought I know, *answer'd I*, there may have been several burnt up in *Jupiter* a little while ago. Provinces burnt up in *Jupiter!* Certainly, *said she*, this would be a strange Piece of News there. Very strange, *said I*; there has been seen this Year in *Jupiter* a long Track of Light, much brighter than any other part of that Planet. We have had our Deluges; and perhaps in *Jupiter* they are liable to Conflagrations. How can we tell? *Jupiter* is ninety Times bigger than the Earth, and revolves round his own Axis in ten Hours; whereas we are twenty-four Hours in revolving; so that his Motion is 216 Times stronger than ours. In so violent a Rotation, may not the drier and more combustible Parts catch Flame, as an Axeltree sometimes, or an Arrow shot with extraordinary Force, takes fire? But be this as it will, this Light of *Jupiter* is not comparable to another, which, in all Appearance, is as antient as the World, and which however has never been seen. How

doe

does this Light do to hide it ſelf, *ſaid ſhe?* It muſt have a very particular Art for that.

IT ſhews itſelf, *anſwer'd I*, only at the Twilights, which are generally ſtrong enough to hide it; or if they let it appear, either the Vapours of the Horizon ſmother it, or it is ſo ſcarcely perceivable, that unleſs one obſerves very exactly, it is taken for the Twilight itſelf. But, in ſhort, for about theſe ſixteen Years, it has been plainly diſtinguiſh'd, and has been the Entertainment of the Aſtronomers for ſome time, whoſe Curioſity wanted to be awaken'd by ſomething new. The Diſcovering ever ſo many new ſecondary Planets would not have touch'd them: They were not tranſported, for Inſtance, at the laſt two Moons of *Saturn*, as they had been at the Satellites or Moons of *Jupiter*; they were accuſtomed to all this: But now a Month before and after the Vernal Equinox, when the Sun is ſet, and the Twilight ſhut in, we ſee a certain whitiſh Light reſembling the Tail of a Comet. It is ſeen before Sun-riſe, and before the Twilight about the Autumnal Equinox, and about the Winter Solſtice in the Evening and Morning; at other Times, as I ſaid, it is loſt in the Twilights, which are too bright, and laſt too long; for they ſuppoſe it always ſubſiſts, and in all Like-

lihood it does so. They conjecture it arises from a large Quantity of gross Matter which encompasses the Sun to a certain Distance; that the greatest Part of his Rays pass thro' this Inclosure, and come to us in a strait Line; but some of them striking upon the inner Surface of it, are transmitted down to us, and reach us either before the direct Rays have reach'd us in the Morning, or after they can no longer reach us in the Evening. As these reflected Rays are darted from a greater Height than the Direct, they must consequently be with us sooner, and go slower away.

UPON this Foot I must retract what I told you, That the Moon could have no Twilights for want of a gross Air about her like the Earth. But this will be no loss to her; her Twilights may arise from such a Body of Air as surrounds the Sun, and which reflects the Rays upon such places where the direct Beams cannot come. And mayn't this, *said the Countess*, furnish Twilights also for all the Planets, who will have no occasion to be each of them encompassed with such a gross Air, since this of the Sun alone may serve for all the Planets of the Vortex? I am ready to believe Nature, according to the Oeconomy I know she affects, would employ no other Means. Notwithstanding this Oeconomy of hers, *said I*, there might be with respect

to

to our Earth, two Causes of the Twilights; one of which, namely the gross Air about the Sun, would be of very little use, and only serve as an Object for the Curiosity of the Members of an Observatory. But to speak freely; it is possible that the Earth alone sends forth Vapours and Exhalations gross enough to produce Twilights, and that Nature saw it proper to provide by one general Means for the Necessities of all the other Planets, which are purer, if I may say it, and whose Evaporations are more subtile. Perhaps among all the Inhabitants of the several Worlds in our Vortex, we are they who requir'd a gross and heavy Air to breathe in. With what Contempt would the Inhabitants of other Planets look upon us, if they knew this?

THEY would be to blame, *says the Countess*; there is no reason to despise us for being encompass'd with a heavy Air, since the Sun himself is in the same Condition. Pray is not this Air produc'd by certain Vapours, as you told me once, which serve to break the first Force of the Rays, which might otherwise have been too violent? I imagine the Sun may have a Veil drawn about him naturally, in order to make him proportion'd to our Uses. In Truth, Madam, *said I*, you have struck out the beginning of a System happily enough: You may add, that these Vapours

may produce a sort of Showers, which may fall upon the Sun to refresh him, in the same manner as we sometimes throw Water upon a Fire when it is too fierce. There is nothing we ought not to presume from the Dexterity of Nature; but she has another kind of Dexterity wholly singular, to hide herself from us, and we must not assure ourselves too easily that we have found out her Manner of acting, or her Designs. In making new Discoveries, we should not be too hasty to reason, tho' we have always Inclination enough to do it; and true Philosophers are like the Elephants, who, in marching, never set down a second Foot to the Ground, till they have fixed the first sure. I think this Comparison, *interrupted she*, the juster, because the Merit of neither of the Parties, the Elephants and the Philosophers, consists in any outward Graces or Charms. I agree, that we should imitate the Wariness of the one and the other; and if you will teach me some of the late Discoveries, I promise you not to make a System in haste.

I have told you already, *answer'd I*, all the News I know of the Heavens; and I believe there are no fresher. I am mighty sorry we have no Advices thence, as surprizing and marvellous as some Observations I read the other Day, in an Abridgment of the Annals of *China*, written in *Latin*, and printed

printed a little while ago. There one may see a thousand Stars at a Time fall from the Sky into the Sea with a great Crash, or else they dissolve and turn to Rain; and this has been seen more than once in *China*. I have found this Observation in two several Times distant enough from each other, without reckoning a Star which travels towards the East, and bursts with a huge Report, like a Fusee. It is pity these Sights are reserv'd only for *China*, and that our Countries never have a Share in them. Not long since, all our Philosophers thought they had a Foundation in Experience, to maintain, That the Heavens and all the Celestial Bodies were incorruptible, and incapable of Change; and at the same time, other Men, in another Quarter of the World, saw Stars melt down by thousands. There is some Difference in this. But, *said she*, have not I always heard the *Chinese* were very great Astronomers? True, Madam; but the *Chinese* have the Advantage to be separated from us by a large Space of Land, as the *Greeks* and *Romans* are by a long Series of Ages; and all Distance has a right to impose upon us. In Truth, I am more and more persuaded there is a certain Genius which has hitherto been confin'd within our *Europe*, or which, at least, has extended very little beyond it. Perhaps it has not been permitted to spread itself

itſelf over a great Tract of Country at a Time, and that ſome Fatality has ſet it ſuch narrow Bounds. Let us enjoy it, while we have it; the beſt of it is, that it does not confine itſelf to the Sciences and dry Speculations, but reaches with Succeſs even to Things entertaining and agreeable, in which I queſtion whether any People have equall'd us. Theſe, Madam, are the Things you ought to employ yourſelf about, and which ought to compoſe your Philoſophy.

The End of the DISCOURSE *of the* PLURALITY *of* WORLDS.

A

DISCOURSE

Concerning the

ANTIENTS and MODERNS.

Translated from the *French* of

M. *FONTENELLE.*

A

DISCOURSE

Concerning the

ANTIENTS and MODERNS.

THE whole Diſpute for Pre-eminence between the Antients and Moderns being well underſtood, has this ſhort Iſſue, *viz.* to know whether the Trees which formerly grew in our Fields were larger than theſe of the preſent Time. If they were, *Homer*, *Plato*, *Demoſthenes*, cannot poſſibly be equall'd in theſe later Ages; but if otherwiſe, they can.

LET us explain this Paradox. If the Antients had more Wit or Capacity than the Moderns, their Brains muſt have been better form'd, of ſtronger or of more delicate Fibres, and fill'd with more animal Spirits. But what could be the Cauſe of this? Their Trees then muſt have been larger and more beautiful: For if Nature

Nature at that time was younger and more vigorous, Plants, as well as human Brains, must have shar'd of this Youth and Vigour.

LET the Adorers of the Antients take care what they say, when they tell us, *They* are the Sources of good Taste and Reason, and the Luminaries destin'd to give Light to all Mankind: That nobody has Wit or Judgment, but in proportion to his Veneration for them; that Nature has exhausted herself in producing those great Originals: For, in Truth, they make them of a Species different from us, and Philosophy does by no means agree with all those fine Expressions. Nature has between her Hands a Kind of Clay, which is always the same, which she forms and reforms into a thousand Shapes, and of which she makes Men, and Beasts, and Plants: And 'tis ridiculous to fancy that she compos'd *Plato*, *Demosthenes*, or *Homer* of a finer Mold, or better prepar'd, than the Philosophers, Orators, and Poets of the present Time. For, though our Minds are immaterial, I regard here only their Union with the Brain, which is material, and which, according to its various Dispositions, produces all the Difference between them.

BUT, though the Trees of all Ages may have been equal, those of all Countries

tries are not; and this too makes a Difference among the Wits of Men. Different Ideas are like Plants or Flowers, which do not equally flouriſh in all Climates. Perhaps our Soil of *France* is no more proper for the Reaſonings of the *Egyptians* than for their Palm-Trees: And (without travelling ſo far) perhaps Oranges, which do not grow here ſo kindly as in *Italy*, are a Proof that *Italy* has a Turn of Wit, which cannot exactly be match'd in *France*. It is certain, that by the Enchainment and reciprocal Dependance which there is among all Parts of the material World, the Difference of Climates, which ſhews itſelf in Plants, ought in like manner to extend to human Brains, and have ſome Effect on them too.

HOWEVER, this Effect is not ſo great or ſenſible, becauſe Art and Culture have more power upon the Brains of Men than upon Earth, which is of a Matter more hard and untractable. Thus the Thoughts of ſome Countries may more eaſily be tranſplanted into others than their Trees and Fruit; and it will not be ſo difficult for us to take the *Italian* Genius in our Writings, as to raiſe the *Italian* Oranges.

AND, though it is commonly ſaid, that there's a greater Diverſity among Wits than Faces, I am not very ſure 'tis true.

For

For Faces, by stedfastly regarding one another, do not take new Resemblances, as Wits may by mutual Commerce. Thus Wits, which are naturally as different as Faces, are brought not to differ so much.

THE Facility which Wits have of forming themselves one by another, is the Cause that People do not always retain the original Turn which they deriv'd from their own Climate. The Study of *Grecian* Books proportionably works in us the same Effect as if we marry'd none but *Greek* Women. 'Tis certain, that by such frequent Alliances, the Blood of *Greece* and that of *France* would alter, and that the particular Look of each Nation would be a little chang'd.

BESIDES, as 'tis impossible to judge what are the most favourable Climates for Wit, but that they have, in all appearance, Advantages and Disadvantages which counterbalance each other; and that those which naturally give more Vivacity, give less Justness, and so of the rest; it follows, that the Difference of Climates ought to pass for nothing, provided that Wits are equally cultivated. At most, one might imagine that the Torrid Zone, and the two Frozen, are not very proper for the Sciences. As yet they have not pass'd *Egypt* and *Mauritania* on one side, and

and *Sweden* on the other. Perhaps, it has been only by chance that they have confin'd themſelves between Mount *Atlas* and the *Baltick Sea*. Nobody knows certainly that theſe are the Bounds which Nature has fix'd to them, and whether we may not hope to ſee, at ſome time or other, great Authors among the *Laplanders* or the *Negroes*.

HOWEVER it be, this ſeems to me to be the whole Matter of the grand Queſtion concerning the Antients and the Moderns. Ages make no natural Difference between Men: The Climate of *Greece* or *Italy* and that of *France*, are too near to create any ſenſible Difference between the *Greeks* or *Latins*, and the *French*; or when they do create any, 'twould be eaſy to efface it: And, in ſhort, this Difference would be no more to their Advantage than to ours. It follows then that we are all upon an Equality, Antients and Moderns, *Greeks*, *Latins*, and *French*.

I will not be anſwerable that this Reaſoning ſhall appear concluſive to all the World. If I had employ'd great Flights of Eloquence, and oppos'd Paſſages in Hiſtory which favour the Moderns, to others which favour the Antients; if I had treated thoſe like Pedants, who treat us like Ignorants or ſuperficial Wits, and

according to the establish'd Law among the Learned, had repay'd Injury for Injury to the Favourers of Antiquity, my Arguments would possibly have been better lik'd. But, in my opinion, this were to make the Cause endless, and after a great many choice Declamations on each side, 'twould surprize one to find that nothing were determin'd. The shortest way therefore, I thought, would be to have recourse to Natural Philosophy, which alone has the Secret of abridging those Controversies, which Rhetorick renders infinite.

And thus, for example, after one is convinc'd of the natural Equality between the Antients and the Moderns, there remains no Difficulty: But one sees plainly that all the Differences, whatever they are, must certainly be caus'd by foreign Circumstances, such as Times, Governments, and the State of Affairs in general.

The Antients have invented every thing: ('Tis upon this their Partisans triumph) and therefore they had Wit in a much greater Proportion than we. Not at all. But they had Wit before us: True. Yet they might as well boast that they have drank first of our Rivers, and insult us for being forc'd to drink only their Leavings. Had we been in their place, we should have invented; were they

they in ours, they would have improv'd our Inventions: And this is all the mighty Myſtery.

I ſpeak not here of Inventions which have been purely owing to Chance, and of which one might, if he pleas'd, make a Merit to the moſt ſtupify'd Blockhead on Earth: I mean only ſuch as require ſome Thought and Effort of Mind. 'Tis certain that the meaneſt of this kind have been reſerv'd only for extraordinary Genius's, and that the moſt that *Archimedes* could have done in the Infancy of the World, would have been to invent the Plough: But place him in another Age, and he fires the *Roman* Navy with Glaſſes; if that, by the way, be not a Fable.

IF a Man were inclin'd to flouriſh on the Subject, he might maintain in honour of the Moderns, that the Wit of Man need not be much ſtrain'd for the firſt Diſcoveries, to which Nature itſelf ſeems to guide us; but that it requires a greater Effort to add ſomething: And the greater yet, by how much the more has been added already, becauſe the Matter is more exhauſted; and what remains to be diſcover'd, lies deeper from the View. The Admirers of Antiquity would not poſſibly have neglected ſuch a Reaſoning as this, if it had favour'd their Party. But I will own, however, that I think it has not ſufficient Solidity.

'Tis true, that to improve upon Discoveries, does often require a greater Effort of Mind, than to have made them first: But, at the same time, we find less Difficulty for this Effort. The Mind is already enlighten'd by these very Discoveries which it has before its View; we have the Eyes of others added to our own; and if we surpass the first Inventor, 'tis by his own Assistance: So that he has always his share in the honour of our Work; and if he withdrew that which belongs to him, there would not be more remaining to us than to him.

I carry the equitable Part so far on this Head, that I allow the Antients for every thing possible, even for a World of false Views and bad Reasonings they have fallen into, and foolish things they have said. Such is our Condition, that 'tis not permitted us at once to arrive at any thing reasonable, be it on what Subject it will: We must first be forc'd to wander a long time, and pass through many sorts of Errors, and several degrees of Impertinence. It would have been always easy, one would think, to find out that the whole Legerdemain of Nature consists in the Figure and Motion of Bodies: And yet before thus much could be attained, there was a Necessity of trying *Plato*'s Ideas, *Pythagoras*'s Numbers, *Aristotle*'s Qualities;

ties; and when all this was found to be falſe, the World was forc'd upon the true Syſtem. Forc'd, I ſay; for indeed there was no other left; and this ſeems to have been withſtood as long as poſſible. We are oblig'd to the Antients for having exhauſted the falſe Ideas as much as they could. There was a Neceſſity to pay that Fine to Error and Ignorance which they have done; and we ought not to be wanting in our Acknowledgments to thoſe who have acquitted us from it.

THIS is the Caſe in ſeveral Matters, on which there are a great many Impertinencies, which we ſhould have ſaid, if they had not been ſaid before, and in a manner taken away from us. And yet there are Moderns who ſometimes make a ſhift to lay hold of them again, perhaps becauſe they have not been ſo often repeated as they muſt be. Thus, being aſſiſted by the Views of the Antients, and even by their Faults themſelves, 'tis not ſtrange we ſhould go beyond them. If we only equall'd them, we muſt be of a very inferior Make to theirs; we muſt be ſcarcely Men as they were.

IN the mean time, that the Moderns may be able always to excel the Antients, 'tis neceſſary the Subject be of ſuch a Nature, as will admit of this. Eloquence and Poetry require a certain Number of Views

Views less extended than the other Arts, and which depend chiefly on the Vivacity of the Imagination. Now Men in a few Ages may have amass'd a considerable Number of Views; and the Vivacity of the Imagination has no need of a long Train of Experiences, nor of a great many Rules to form it to all the Perfection 'tis capable of. But Natural Philosophy, Physick, and Mathematicks, are compos'd of an infinite Number of Views, and depend on the Justness of Reasoning, which ripens by very slow degrees, and is always improving. Besides, 'tis often necessary that these Arts be assisted by Experiments which Chance makes, and does not carry to the propos'd Point. 'Tis evident that all this is endless, and that the last Physicians or Mathematicians must naturally be the most accomplish'd.

And, in effect, 'tis certain that the principal Part in Philosophy, and the manner of Reasoning, which from thence extends to every thing else, has been brought to a great Perfection in this Age. I very much question whether the Majority will assent to the Remark I am going to make; yet I am resolv'd to make it for the sake of those who are Judges of Reasoning: And I may boast too that 'tis no small Courage, for the sake of Truth, to stand the Censure of all the rest,

reſt, who are no contemptible Number. Let the Subject be what it will, the Antients are too apt to be uncorrect in their Reaſoning. Slight Agreements, little Similitudes, trifling Fancies, rambling and confus'd Harangues paſs with them for Proofs; ſo that to prove, coſts them nothing. But what an Antient would demonſtrate in play, would be a Task to make a poor Modern ſweat; for how ſevere are we now upon Reaſonings? We require them to be intelligible, juſt, concluſive. We have the Malice to unravel the leaſt Equivocation either of Thought or Expreſſion, and the Boldneſs to condemn the moſt ingenious Turn in the World, if it does not reach the Matter. Before *Deſcartes* appear'd, People reaſon'd much more commodiouſly; and 'twas happy for preceding Ages, that they had not this Man to diſturb them. It was he, as far as I can judge, that brought in this new Method of Reaſoning, much more valuable than his Philoſophy, of which a great Part is found to be falſe or uncertain, even according to the Rules he himſelf has taught us. In fine, there reigns in all our valuable Writings, not only of Philoſophy and Mathematicks, but likewiſe of Divinity, Morality, and Criticiſm, ſuch a ſtrict Juſtneſs as till now was very little known, if at all.

I am

I am perſuaded too, that this will be advanc'd yet further. We have not left daſhing our beſt Writings yet with a little of the old way of Reaſoning: But we ſhall be Antients hereafter; and will it not be juſt that our Poſterity in turn ſhould amend and outdo us, eſpecially in the manner of Reaſoning? which is a Science by itſelf, and the moſt difficult too, tho' the leaſt cultivated of all.

As for Eloquence and Poetry, which are the chief Points in Diſpute between the Antients and Moderns, tho' they are not in themſelves of great Importance, yet I think the Antients may have had the Power to attain the Perfection of 'em, becauſe, as I ſaid, it may be attain'd in few Ages; and how many were ſufficient for it, I don't preciſely know. The *Greeks* and *Latins*, I ſay, might have been excellent Poets and Orators; but the Queſtion is, whether they have been ſo. To clear this, would be to enter into an Enquiry which were endleſs, and which, were it ever ſo juſt and exact, would never ſatisfy the Favourers of Antiquity. For which way ſhall they be reaſon'd with? They are reſolv'd to forgive their Antients every Thing; nay, to admire them in every Thing. This is particularly the Humour of Commentators, the moſt ſuperſtitious Sect of all the Worſhippers of Antiquity.

How

How happy would our greateſt Beauties think themſelves, if they could inſpire their Lovers with as ſtrong and tender a Paſſion, as that with which a *Greek* or *Latin* Author inſpires his enamour'd Interpreter?

YET I will venture to ſay ſomething more particular concerning the Eloquence and Poetry of the Antients; not that I am inſenſible of the Danger of declaring one's ſelf; but becauſe I fancy that my ſmall Authority, and the little Regard which will perhaps be paid to my Opinions, leave me at full Liberty to ſay what I pleaſe. I think, Eloquence has been carry'd to a greater Height among the Antients, than Poetry, and that *Demoſthenes* and *Cicero* are more perfect in their kind, than *Homer* and *Virgil* in theirs; and that for a very natural Reaſon. Eloquence was a Recommendation to every Thing in the *Greek* and *Roman* Republicks; and it was as fortunate to be born with a Genius for ſpeaking well, as it would be now to be born worth ſome Thouſands a Year. Poetry, on the contrary, was worth nothing; it would turn to no Account; and it has been always the ſame, in all kinds of Governments. It is a Misfortune that ſeems inſeparable from it. I think too, that both in Poetry and Eloquence, the *Greeks* muſt yield to the *Romans*; excepting in one kind of Poetry, I mean Tragedy, in which

the *Romans* have nothing that can dispute with the *Greeks*. According to my particular Taste, *Cicero* is superior to *Demosthenes*, *Virgil* to *Theocritus* and *Homer*, *Horace* to *Pindar*, and *Titus Livius* and *Tacitus* to all the *Greek* Historians.

THIS Order, according to the Hypothesis we have laid down, is very natural. The *Latins* were Moderns in relation to the *Greeks*. But as Eloquence and Poetry are pretty much limited, there must have been a Time when they were carry'd to the highest Perfection; and the Time, I take it, for Eloquence and History, was the Age of *Augustus Cæsar*. I have no Idea of any Thing superior to *Cicero* and *Titus Livius:* Not that they are without their Faults; but I believe it impossible to have fewer Faults, with so great Excellencies; and every one knows, that there is no other way in which we can ascribe any Perfection to Mankind.

THE most beautiful Versification in the World, is that of *Virgil*; and yet it would not have been amiss perhaps, if he had had Leisure to have retouch'd it. There are many parts of the *Æneid*, which appear to be of the most exquisite and finish'd Beauty, and which I believe will never be surpass'd. As for the Disposition of the Poem in general, the Manner of bringing about the Events, and managing the agreeable

greeable Surprizes, the Nobleneſs of the Characters, and Variety of the Incidents, I ſhall not wonder if I ſhould ſee *Virgil* excell'd; and our Romances, which are Poems in Proſe, have already ſhewn us, that it is poſſible.

I do not intend to enter into a farther Detail of Criticiſm on this Head; I would only ſhew, that ſince the Antients may poſſibly have arriv'd to the greateſt Perfection in certain Things, or may not, we ought, when we examine whether they have actually arriv'd to that Perfection, or no? to have no reſpect for their great Names, no Indulgence for their Faults, but to treat them, in ſhort, as if they were Moderns. We ſhould be able to hear or ſay, without any ſoftning, that ſuch a Thing is an Impertinence in *Homer* or *Pindar*; we ſhould have the Courage to believe, that mortal Eyes may ſpy Faults in theſe great Genius's. We ſhould be able to ſuffer *Demoſthenes* and *Cicero* to be compar'd to ſome Perſon with a modern Name, and perhaps not of the firſt Rank. How great and prodigious an Effort of Reaſon!

UPON this Occaſion, one cannot help laughing at the fantaſtical Humour of Mankind. Prejudice for Prejudice, it would be more reaſonable certainly to entertain them in favour of the Moderns than of the Antients. The Moderns are Moderns, and

naturally ought to out-do the Antients. This Prepossession in their Favour, would have some Foundation. On the contrary, what are the Grounds of that we have for the Antients? Their Names, which sound better in our Ears, because they are *Greek* or *Latin*; the Reputation they had of being the Chief of their Age, which was true for their Age only; the Number of their Admirers, which is very great, as having had time to encrease in a long Course of Years: All this consider'd, it were more just that we should be prepossess'd in Favour of the Moderns. But Mankind, not content to abandon Reason for Prejudices, often chuse such as are the most opposite to Reason, that can be.

When we shall have found that the Antients have arriv'd to the Point of Perfection in any thing, let us content our selves to say, they cannot be excell'd; but let us not say, they cannot be equall'd; a manner of speaking so common among their Admirers. Why should we not equal them? As we are Men, we have always a Right to pretend to it. Is it not pleasant enough, that we should want Courage upon this Point, and that we, who have often so absurd a Vanity on other Occasions, should sometimes be capable of an Humility no less absurd? It is decreed, it seems, that we must be ridiculous every way, and sometimes even in Contraries. Na-

NATURE remembers, no doubt, how she form'd the Heads of *Cicero* and *Titus Livius*. She produces in all Ages, some that are capable of being Great Men; but those Ages do not always permit them to exert their Talents. The Inundation of barbarous Nations; Governments, either absolutely opposite, or little favourable to the Arts and Sciences; Prejudices and Fancies, which may take a thousand different Forms, such as the Superstition they have in *China* for dead Bodies, which prevents their making any Dissections; and universal Wars, often establish'd, and for a long time Ignorance and a bad Taste: Add to this, all the various Dispositions of particular Fortunes and Conditions, and you will easily apprehend how Nature sows in vain *Ciceros* and *Virgils* in the World, and how rarely it is that they come up to good. 'Tis said, that Heaven when it forms great Kings, forms at the same time great Poets, to sing their Praises, and great Historians to record their Actions. Thus far it is true, that in all times the Historians and Poets are ready, and that Princes need only resolve to employ them.

THE barbarous Ages which follow'd that of *Augustus*, and have preceded ours, have furnish'd the Partisans of Antiquity with the most plausible of all their Reasonings. From whence is it, say they,

that these Ages have been so grosly stupid and ignorant? Certainly it is because the *Greek* and *Latin* Authors were not understood, or read; but from the moment that Mankind plac'd before their Eyes these excellent Models, Reason, and a good Taste began to revive. This is true, and yet proves nothing. Suppose a Man who had made a good Beginning in the Sciences and polite Learning, should have fallen into a Distemper, which had made him forget them; would it be reasonable to say he was become incapable of them? No, he might recover them by beginning again with the first Elements. Or if any Medicine should at once restore his Memory, his Task would be the shorter; he would find himself in Possession again of all that he knew before, and would have nothing to do but to go on where he left off. The studying of the Antients has dissipated the Ignorance and Barbarity of former Ages. I believe it. It gives us at once just and elegant Ideas, which we should have been a long time in forming by ourselves, but which we should have form'd at last, without the help of the *Greeks* and *Latins*, if we had industriously search'd after them. And whence should we have had them? Why, from the same Source from which the Antients had them. The Antients before they became possess'd of them, trifled for a long time.

The

THE Compariſon we have juſt now made of the Men of all Ages to one Man, may be farther extended through the whole preſent Queſtion concerning the Antients and the Moderns. A good Capacity cultivated, is in a manner a Compoſition of all the Capacities of former Ages: It is the ſame Capacity, cultivated through all that Time. Thus, this univerſal Man, who has liv'd from the beginning of the World to this Day, has paſs'd through his Childhood, which was wholly taken up with the moſt preſſing Neceſſities of Life; his Youth, in which he ſucceeded well enough in the Studies of Fancy, ſuch as Poetry and Eloquence, and in which he began likewiſe to reaſon, but with more Fire than Solidity: And he is now arriv'd at his Age of Manhood, in which he reaſons with more Force, and has more Light than ever; but would make much greater Advances, if War, and the Love of Arms had not too much engag'd his Purſuits, and given him for too long a time a Contempt of Learning, to which, however, he is at laſt return'd.

'TIS pity a Compariſon, which ſets out ſo ſmoothly, cannot be carry'd on farther. But it muſt be own'd that this Man of all Ages will never be old. He will be always equally capable of Improve-

ments

ments proper to Youth, and more of such as are agreeable to Manhood: That is to say, (to quit the Allegory) Mankind will never decline, and the Views and Discoveries of all Men of Capacity will be added to the common Stock, as they shall succeed one another.

THIS Stock, which encreases daily, of Views we ought to follow, and Rules we ought to practise, augments perpetually the Difficulty of the several Kinds of Arts and Sciences: But, on the other hand, new Facilities arise to balance those Difficulties. I will explain my self by Examples. In *Homer*'s Time, 'twas next to a Miracle, that a Man should be able to mould his Discourse into Feet and Numbers, with Syllables long and short, and at the same time produce any thing of good Sense. Poets, therefore, were allow'd endless Licences, and the Age was happy enough in having any such thing as Verse. *Homer* might, in the same Line, speak five different Languages; he might use the *Dorick* Dialect, when the *Ionick* would not fit his purpose; or, in default of both, he might employ the *Attick*, the *Æolick*, or common Speech: That is to say, he might speak the Language of *Picardy*, *Gascony*, *Normandy*, *Britony*, and common *French*, at one and the same time. He might stretch

ſtretch out a Word by the Addition of a Syllable, if it were too ſhort; or curtail it, if too long, and nobody would have any thing to object: And this Jargon of Languages, this motley Collection of Words metamorphos'd and disfigur'd, was the Language of the Gods, as well it might; for 'tis certain it was not the Language of Men. By degrees, the World ſaw the Ridiculouſneſs of theſe Liberties granted to Poets. They were therefore retrench'd, one after another, and at preſent the Poets find themſelves quite ſtripped of their antient Privileges, and reduc'd to the Neceſſity of ſpeaking naturally. This, one would think, ſhould have almoſt ſpoil'd the Trade, or, at leaſt, very much encreas'd the Difficulty of making Verſes; but it has not: For the Mind is now enrich'd with an infinite Stock of Poetical Ideas, which have been furniſh'd by the Antients. We have their Works in our hands, and are guided by a great Number of Rules and Reflections, which have been made upon the Art: And as theſe were wanting to *Homer*, he has juſtly been allow'd for that Want in all the Licences indulg'd to him. In the mean time, I believe, to ſpeak the truth, that his Condition of the two was better than ours. There is no Exactneſs in Compenſations of this Nature.

THE

THE Mathematicks and Natural Philosophy are Sciences, which encreas'd, like a Load, upon the Learned, till they have been forc'd at last to throw it off: But the Methods in the mean time are multiply'd. The same Capacity that brings Things to Perfection, by adding new Discoveries, improves at the same time the manner of Learning, by making it shorter, and furnishes new means of comprehending the new Extension it gives to the Sciences. A Philosopher of this Age is, in respect of Learning, ten times a Philosopher of the Age of *Augustus*; but then he has ten times more Helps and Advantages to become that Philosopher.

IF I were to draw a Picture of Nature, I would represent her like Justice, with a Balance in her Hand, to signify that she employs it in dividing to her Sons their several Portions; and that for the most part she makes pretty near an equal Weight in what she distributes to Mankind; Happiness, Capacity, the Advantages and Disadvantages of their different Conditions; the Facilities and Difficulties which regard Matters of Wit and Learning.

BY virtue of those Compensations we may hope the Ages to come will admire us to an Extravagance, in amends for the little

little Regard which is paid us in our own Age. Future Criticks will perhaps ſtudy hard to find out in our Writings Beauties we never deſign'd: On the other hand, Faults which are not to be defended, and which the Author himſelf would now give up, may meet with Advocates of an invincible Courage. Heaven knows with what Scorn, in compariſon of us, they will treat the great Wits and Genius's of of their own Time, who poſſibly may be *Americans*. Thus, it ſeems, that Prejudice ſinks us in one Age, to raiſe us in another. We are now the Sacrifice; and then the Divinity. A Sport diverting enough to be look'd upon by impartial Obſervers!

I might extend the Prophecy much further. The Time has been when the *Latins* were Moderns; and then the Complaint was of the Infatuation the World had for the *Greeks*, who were Antients to them. The Diſtance of Time between thoſe Competitors diſappears to us, who are at ſo much a greater diſtance. They are both Antients to us; and we make no Difficulty of preferring ordinarily the *Latins* to the *Greeks*, becauſe there is no hurt done, in a victory of the Antients over the Antients. But it would be of the moſt terrible Conſequences, if it were a Victory of the Moderns over the Antients.

Let

Let us have patience, and by a long Succession of Ages, we shall become, as it were, Cotemporaries with the *Greeks* and *Latins*. And when we are thus all Antients, it is easy to foresee that there will be no Scruple in giving us, in many Things, the Preference. The best Works of *Sophocles*, *Euripides*, *Aristophanes*, will scarcely stand before the *Cinna*, *Horace*, *Ariane*, the *Misantrope*, and many other Tragedies and Comedies written at a good time; for, indeed, to speak impartially, it must be own'd that good Time has been past for some Years. I do not think *Theagenes* and *Chariclea*, *Clitophon* and *Leucippe* will ever be compar'd to the *Cyrus*, *Astræa*, *Zayde*, or the *Princess of Cleves*. The same may be said of the newer kinds of Writing, as Letters of Love and Gallantry, Tales, Opera's, and the like; each of which kinds has furnish'd us with some excellent Author, to whom Antiquity has nothing to set in opposition, and who will not perhaps be surpass'd by Posterity. If we were only to instance in Songs, (a sort of Writings which perhaps may be lost, and to which no body pays much Regard) it is certain we have a prodigious Number of them, full of Wit and Spirit; and such as I will venture to say, if they had been known to *Anacreon*, he would have sung oftner than his own.

We

We ſee, by a great variety of Poetical Writings, that the Verſification is capable at preſent of as much Dignity, and at the ſame time of more Juſtneſs and Exactneſs than ever. I have deſign'd to avoid entring into Particulars; therefore I will not undertake to diſplay at large our Riches. But I am convinc'd we are in the condition of ſome wealthy Lords, who do not keep always an exact Regiſter of their Goods, and have more Poſſeſſions than they think of.

IF the Great Men of the preſent Age, had any Charity for Poſterity, they would adviſe it not to admire them too much, and to aſpire always at leaſt to equal them. Nothing ſo much ſtops the Progreſs of Arts; nothing checks the Wit of Man ſo much as an exceſſive Admiration of the Antients. Becauſe the World has happen'd to be blindly devoted to the Authority of *Ariſtotle*, and has ſought for Truth only in his dark and enigmatical Writings, and not in Nature itſelf, Philoſophy has not only made no advancement, but was ſunk into the Depths of a pedantick Jargon, and unintelligible Ideas; from whence it has coſt the greateſt pains imaginable to ſet her free. *Ariſtotle* has never made one true Philoſopher; but he has ſpoil'd many a Genius capable of making one, if left to it ſelf. And the

the mischief is, that such a whimsical Prepossession being once establish'd among Men, continues for a long time. It requires whole Ages to recover out of it, even after the Folly of it is known. If the World should in like manner run mad after *Descartes*, and place him in the room of *Aristotle*, this too would be attended with almost the same Inconvenience.

In the mean time, to speak the whole Truth, it is by no means certain that Posterity will allow us the Merit of the two or three thousand Years distance, which may be one Day between us and them, as we do at present to the *Greeks* and *Latins*. We have all the Symptoms in the World to make us believe that Reason will improve, and that People will be generally disabus'd, and freed from their great Prejudice in favour of Antiquity. Perhaps it may not last much longer; perhaps, too, as it now stands, we may admire the Antients without gaining any thing by it to ourselves hereafter, or ever being admir'd on the same foot in our turn.

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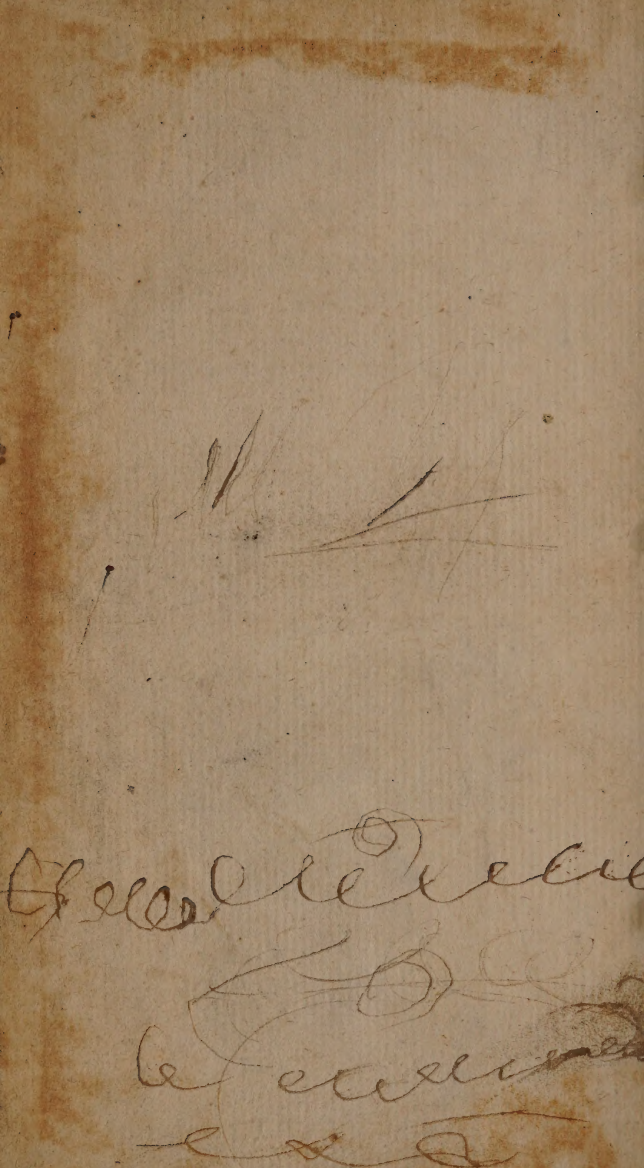
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